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AMIGA SHOPPER

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The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

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55 Inside issue

Rush down to your local Escom shop and buy yourself a new Amiga. They're back on the shelves!

Yes, it's true! You can now get hold of a brand spanking new Amiga. Simply walk into your local Escom shop and they should be sitting proudly on the shelves. For the full story turn to page 14.

You may have noticed that Amiga Shopper is a little thinner than usual. But don't panic! We have actually cut the advertising pages and kept the editorial content very much intact, so you'll still find a huge Supertest every month, and lots of reviews and tutorials, not to mention your Coverdisk instructions and a feature or two, plus Amiga Answers and Public Domain. The main difference is that now you'll find the list of PD Houses and User Groups on our Coverdisks.





Talking of Public Domain, we've re-vamped our PD section this month. David and Nick have changed it beyond recognition. They've included a selection of the best Licenceware and Internet programs available too – which will appear every month from now on. You'll find it all on page 68.

We decided monitors were the next bits of kit to undergo our scrutiny in a Supertest, which explains why John Kennedy's office was overrun by huge boxes and he nearly did his back in carrying them about! And David has written the feature this month on storage for your Amiga. He's been itching to write this piece for months, so this time we let him.

We have another excellent competition for you too. You could win a Canon BJC-600e printer worth £450 – we tested one in our printers Supertest back in issue 51. We were so impressed with it that we gave it 91 per cent and a Star buy.



As we always say in Talking Shop, we want to hear from you! Tell us what you think of the price of Amigas these days, or what you would like to see featured in AS, or just write and tell us how much you enjoy reading the magazine!

Don't forget you can reserve your next issue of Amiga Shopper at your local newsagents – turn to page 82 for the form you can use. ■

Sue Grant
Editor

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Turn the page for the contents of issue **55**

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ShopperFeatures

ShopperReviews



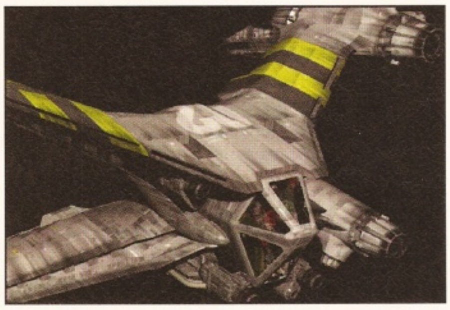
Win a Canon BJC-600e printer. Turn to page 45 to find out how.

ShopperReviews

ShopperServices

ShopperTutorials

ShopperRegulars



Mojo, from Foundation Imaging, is back with the first of another series of 3D tutorials.

Picture perfect ________ p26

The Amiga Shopper Supertest goes from strength to strength. Renowned for being the most comprehensive and informative head-to-head review in the Amiga business, every month we take a good, long look at what we know is of immediate interest to our readers. But more than that. Not only do we give you the definitive low-down on the top monitors avaiable, but we provide you with in-depth knowledge on the Amiga display set-up – how monitors work, which types of monitor are best for your needs, and what all that terminology stands for. Don't just read the Supertest for the reviews, read it to become an expert.



Shopper**Disks**

We come bearing disks. Rather stonking ones, as it happens (and it does happen consistantly on Amiga Shopper). There's two full packages, plus a whole load of ShopperChoice PD programs.





Disks 1 & 2

There are two complete packages this month on our Coverdisks, as well as a bursting ShopperChoice selection. **David Taylor** *and* **Nick Harper** *serve up Amiga Shopper's 5Mb extravaganza.*

Programming can seem daunting, but we have the answer on our Coverdisks. HiSoft BASIC v1 is the ideal introduction to programming. We also have the full Licenceware title, Introducing Workbench, from F1, as well as all our usual Zones. Here's Nick with an introduction to BASIC programming.

BASIC is bundled with almost every home computer available. Why? Because it's easy to use. BASIC stands for Beginners All-purpose Symbolic Instruction Code – don't be phased by the jargon, with the minimal of knowledge you'll soon be doing things you've only dreamed of.

Before you start programming it's important to understand that computers are logical. More logical than Mr Spock. If you can think logically, you're two thirds of the way to becoming a great programmer. The remaining third, of course, revolves around mastering a computer language. The good news is that BASIC has lots of powerful, easy-to-use features that let you get to grips with programming.

OK, let's take a look at a few commands (the listings for the following examples can be found on the Coverdisk). To get started, double-click on the HiSoft BASIC Editor icon.

- **PRINT**: One of the most visual features in BASIC is `PRINT`, which places text on the screen. Anything you want to `PRINT` goes between double quotes, unless it is a variable value. So, if you were counting apples, and wanted to print the amount, use:

```
PRINT "There are ";apple;" apples in
the orchard."
```

The semi-colon (`;`) tells the computer to place the value of apple straight after the text. If the value of apple was 15, the resulting text would look like this:

There are 15 apples in the orchard.

- **LOCATE**: It's all very well writing text, but where on the screen will it appear? Use the `LOCATE` command to place the cursor (that's the pointer to where the text will start) on the screen. When you use `LOCATE`, follow the command with up to three values. The first value is the row in which to place the text (from 1 to 77). The second is the column (from 1 to 62 in 60-column mode, 1 to 77 in 80-column mode), and the final value indicates whether you want the cursor (a filled box) to be shown. `1` means show it, `0` means don't. Here's an example:

```
REM Test to print at column 20, row 10
LOCATE 10,20,0
PRINT "I'm 10 rows down, 20 columns in,
with no cursor."
```

- **FOR...NEXT**: Place the `FOR` before a series of events, and the `NEXT` after them, and the events are repeated a specified number of times. Here's how to print the numbers `1` to `10`, using the commands we now know:

```
REM a For...Next loop test
FOR i=1 TO 10
LOCATE i,1,0
PRINT "This is the number ";i
NEXT i
```

- **WHILE...WEND**: A more powerful version of the `FOR...NEXT` loop. Place the `WHILE` before and the `WEND` after your events. The events then repeat until the `WHILE` condition is satisfied. The benefit of this over `FOR...NEXT` is that the events repeat a varying number of times, depending on what else is happening. Let's see an example:

```
REM While...Wend, using done as a marker
done=1
WHILE done<50: REM While done is less than
50
REM loop repeats until done is 50 or more
REM Isn't it great that I can write lots
of REMs and it doesn't matter!
FOR i=1 TO 20
LOCATE i,done,0 : REM this moves the
cursor to row i, column done
PRINT "A"
NEXT i
done = done + 1 : REM increase done by
one
WEND
REM Screen should fill with lots of As
```

- **IF...THEN...ELSE...END IF**: Will probably be used the most. Here's an example, and an explanation...

```
REM more apples and pears. Can't the bore
think up something more interesting
apples = 10 : pears = 20
IF apples > pears THEN
PRINT "You have more apples"
ELSE
PRINT "You have more pears. Who's been
eating the apples?"
END IF
```

The `IF` statement compares the operation and branches one of two ways as a result. So, if apples is greater than pears then the program prints "You have more apples", otherwise (`ELSE`) the program prints "You have more pears..." Note, you don't need the `ELSE` part. If the `IF`

Installing software

When you've de-archived the Coverdisks, you must always remember that some of the programs then require you to install them. This normally means copying a library or font to the apropriate path on your system disk (either your Workbench disk, or partition on a hard drive). This is because of the Amiga's Operating System, that looks in specific places for certain type of files, like libraries. Some programs, like HiSoft BASIC, may have a test icon that sets up temporary assigns so that you can try the program without copying the libraries. Double-click on these icons before running the program. So, if you have a problem with any program on any Coverdisk, try reading the documentation to see whether certain files have to be in specific places. If they do, it's likely there will be an installation icon, but you may have to copy the files manually.

Jargon busting

Terminology

The most powerful feature of any programming language is the use of variables. A variable is a changeable value, recognised by a word. So, if you were counting apples in an orchard, you could assign a variable called apple the starting value of 0. With each new apple, you would increase apple's value by one, etc.

Each command has to be separate from the others, so the computer can work out what exactly you want. You can do this two ways. Either put each new command on a new line, or, to save space, separate them with colons. The best result is to use colons where you don't need to examine the text closely, and to use new lines when things are complicated.

Operators

Operators are a strange name for seeing how two variables compare. For example, you may want to know if the number of apples in the orchard is greater than the number of pears. Unfortunately, BASIC doesn't understand perfect English, so you have to condense what you want to say in to operators. Here are the most common:

= equals
<> does not equal
> is greater than
< is less than
>= is greater or equal than
<= is less or equal than

So, to see if apples are greater than pears, we would use >, the 'greater than' sign.

condition is false (like our example), and there's no ELSE part, the computer just carries on. The END IF is needed because your IF section stretched over more than one line. You don't need it if you can fit everything on to one line.

If you do have multiple IFs etc., it's important that you put everything on new lines, like in the example. Otherwise you'll get an error. You can also link lots of IFs and ELSEs together, to create an ELSEIF statement. Here's another example:

```
REM apples, pears and bananas this time
apples = 10 : pears = 20 : bananas = 30
IF apples > pears THEN
PRINT "More apples than pears"
ELSEIF pears > bananas THEN
PRINT "You have the most pears"
ELSE
PRINT "Bananas are the most, pears second,
apples the least"
END IF
```

Try reading that back replacing > with 'is greater than', and try to think logically!

Jump around

- **GOTO**: When the computer runs your program, it starts at the top and plods through until the bottom. However, you may want to skip bits. Use GOTO to jump to a new part of the program. You can either use a label, or a line number – traditionally, all BASIC programs were numbered, the first line being, say, 10, and the last line being higher. You referred to each line by its number. HiSoft BASIC lets you refer to lines by labels, too, preventing the need to remember lots of numbers. Here's an example:

```
REM a GOTO test
PRINT "This line gets printed."
GOTO Label
PRINT "This line doesn't get printed."
Label:
PRINT "This is the second line to be
printed."
```

Of course, a GOTO doesn't have to jump down the list of instructions, you can jump up, or back, too. This is useful for creating infinite loops – sections of code that repeat forever. If you label your main program loop, Main:, for example, and then use a GOTO Main, you're sorted.

- **GOSUB...RETURN**: One drawback of GOTO is that it can only jump to one place. But, GOSUB uses a RETURN command, to return back to where you jumped from. This means you can call the same routine from lots of different places. When the routine is finished, the computer returns to the next command after the GOSUB. HiSoft BASIC takes this one step further, enabling you to include a RETURNing label or line number, too, but it's not recommended because it can confuse things.

```
REM GOSUB test
PRINT "First line to be seen"
GOSUB Loop1
REM The RETURN from Loop1 RETURNS here
PRINT "Nearly the end."
GOSUB Loop2
PRINT "That's your lot."
END
Loop1:
PRINT "Second line to be seen"
GOSUB Loop2
RETURN : REM This RETURNs us back to the
starting point
Loop2:
PRINT "This line is seen twice"
RETURN
```

- **INKEY$**: Reads the keyboard, and returns any key pressed. Read INKEY$ as 'in-key-string'. You can return the key into a variable (if so, the variable must also have a $ sign after it), or you can use INKEY$ as a test. Here's an example...

```
REM inkey$ test
a$="" : REM a$ has nothing in it
WHILE a$="" : REM repeat loop until we
press a key
a$=INKEY$ : REM get a key input
WEND : REM end of loop
PRINT a$ : REM print the key pressed
```

Odd keys

Some keys have weird values, that don't relate to normal letters, such as the backspace, which has a value of eight. To read these keys, use the ASC function. All letters (and symbols) have an ASCII code. A space, for example, has ASCII code 32. So, if you typed...

```
PRINT ASC(" ")
```

... you'd see the number 32 appear. To read keys like the backspace, therefore, do this...

```
REM test to read the backspace
letter=300 : REM give letter a value not
in the ASCII range (i.e. above 255)
WHILE letter=300 : REM repeat until letter
does not equal 300
a$=INKEY$ : REM get input
IF a$<>"" then letter=ASC(a$) : REM if we
press a key, give letter the ASCII value
of that key
WEND : REM end loop
IF letter=8 THEN PRINT "You hit the
backspace." ELSE PRINT "You hit any key
other than the backspace."
```

- **INPUT**: Enables you to type a sequence of letters or numbers, and store them in a variable.

```
REM input example
INPUT "Please enter your name: ";name$
PRINT "Hello ";name$;". How do you do."
```

- **LINE**: Enables you to draw lines and shapes on the screen. You place the x and y coordinates of your start and end points in brackets. Note that unlike in maths, the coordinates (0,0) are the *top left* of the screen. You can also use STEP to move from the current drawing position to somewhere else. Type this:

```
REM demo to draw a right-angled triangle
LINE (100,100) - (150,150) : REM draws a
line from (100,100) to (150,150)
LINE (150,150) - STEP (-50,0) : REM draws
a line from (150,150) and goes left 50
and up 0, arriving at (100,150)
LINE - STEP (0,-50) : REM draws a line
from current position (100,150) left 0 and
up 50, arriving at (100,100)
```

You can also tag on a colour, and specify if you want a box drawn, filled or empty. Here's how:

```
REM draw three coloured filled boxes
FOR i=1 TO 3
LINE (i*40,i*40) - STEP (15,15), i,bf
NEXT i
```

Third commandment

The third command (here i) specifies the colour. BF (or bf) indicates a filled box, the top left corner being the first parameter, the bottom right the second. So our first box, when i = 1, will be from (40,40) to (55,55). The second box, when i = 2, will be from (80,80) to (95,95). Note, the size of the box is not affected by i. To draw an empty box, use b rather than bf.

- **CLS**: Clears the current window, and resets the cursor to the top left corner. Type CLS to clear the screen and start afresh.

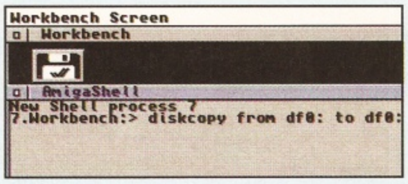
Beginners, look!



Before using either of this month's Coverdisks, please be sure to back them up – just in case. Simply follow the easy instructions below.



1 ***Boot up from your Workbench disk or partition, double-click on your Shell icon – to be found in your system drawer.***



2 ***If you only have one disk drive, type in the following line and then press return.***

```
Diskcopy from DF0: to DF0:
```

If you have two drives, place the Coverdisk in DF0: and a blank in DF1:, then type in this line instead.

```
Diskcopy from DF0: to DF1:
```

3 ***Follow the on-screen prompts and remember that the Coverdisk is the source disk and the blank is the destination.***

4 ***If you used the two-drive method, remember to rename the copy by clicking on its icon and pressing right-Amiga r.***

5 ***If you have two drives, you can also copy the disk from Workbench by dragging the Coverdisk icon over the destination disk's.***

6 ***Then place either of the Coverdisks in df0: and reset the Amiga to boot it. It is best to boot disk 1 (or the Subs disk if you're a subscriber). This will let you install all the disks to either floppy or hard drive.***

Dodgy disk?

To avoid errors when installing to floppies, ensure that your destination disks are of high quality. If an error occurs, try re-booting and using a different spare disk – the majority of errors are caused by faulty destination disks.

If your Coverdisk absolutely refuses to work and you are certain it is faulty, please return it, along with an S.A.E., to:

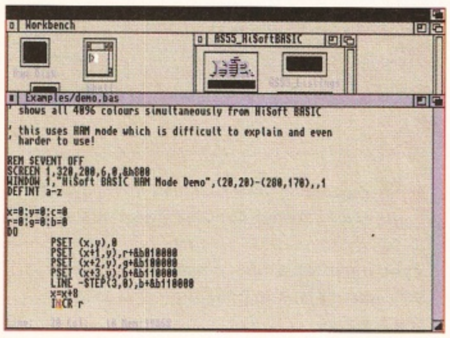
Amiga Shopper Coverdisk
(insert the name of the disk),
Discopy Labs Ltd., PO Box 21,
Daventry, NN11 5BU.

▶ 8

HiSoft BASIC offer

Credit card order line: Freephone ☎ 0500 223660

Now you have the full version of the excellent programming language, HiSoft BASIC 1, on our Coverdisk this month, why not take advantage of these very generous special offers from those nice people at HiSoft. All these offers are exclusive to Amiga Shopper readers.



Offer 1: BASIC 1 Manual

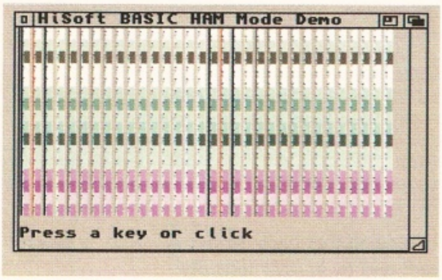
We've given you a quick introduction to BASIC on pages 6 and 7 of this issue, but to really make the most of this easy to use and versatile programming language, you need to get hold of the full manual. And HiSoft are offering it to you at only £9.95 (plus £2 p&p).

Offer 2: Upgrade to HiSoft BASIC 2

save £30

Once you've mastered programming with BASIC 1 it's time to try your hand at the more advanced stuff – to do that you need to upgrade to HiSoft BASIC 2.

BASIC 2 contains a whole host of new features: a brand new editing environment, full support for Workbench 1.3 up to Workbench 3.1, faster compilation speed, faster code



generation, a complete set of libraries for accessing the Operating System, a debugger, and a complete 350-page manual, amongst other things. And now HiSoft are selling BASIC 2 for the special offer price of just £49.95 (plus £3 p&p). That's a saving of £30.

Offer 3: HighSpeed Pascal

save £50

HighSpeed Pascal is a supremely fast developing environment. This program is packed full of features which make it easy to learn and even easier to use. Plus, it is compatible with Turbo Pascal 5 on the PC. HighSpeed Pascal normally costs £99.95, but HiSoft are offering it to you at an extra special Amiga Shopper price of only £49.95 (plus £3 p&p). Normal price £99.95 – that's a massive saving of £50!

Offer 4: Devpac 3

save £30

Devpac 3 is the excellent Assembly language development system from HiSoft. The program includes many features and at its heart is the 68000-68040 assembler – 40 per cent faster than its predecessor. Devpac 3 is now available for only £49.95 (plus £3 p&p), which gives you a saving of £30 off the normal price of £79.95.

Offer 5: Buy two, save an extra £10

Order any two of either Devpac 3, HighSpeed Pascal or HiSoft BASIC 2 for only £89.95 (plus £4 p&p). That means you **SAVE AN EXTRA £10** on the bargain Amiga Shopper prices above!

Extra offer

With offers 2 to 5 above, you will also receive Upper Disk Tools completely free. Upper Disk Tools is the essential tool for undeleting files and retrieving lost files. This program normally retails at £14.95. ■

Amiga Shopper HiSoft BASIC

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A600 with 1Mb & clock	£32.95
A1200 unpopulated	£59.95
A1200 with 2Mb	£129.95
A1200 with 4Mb	£179.95
A1200 with 8Mb	£299.95

Modems

Item	Price
X-Link 14.4k Fax & Data Modem	£129.95
X-Link 28.8k Fax & Data Modem	£232.95
X-Link 14.4k Modem with GP Fax	£169.95
X-Link 28.8k Modem with GP Fax	£272.95

All Modems Are BT Approved

Disk Drives

Item	Price
A500 Internal Floppy Drive	£35.95
A600 & A1200 Internal Floppy Drive	£38.95
Quad Speed CD Rom Drive for A600 & A1200 with SCSI Interface	£299.95
2.5" 340Mb Internal IDE Hard drive for A1200 and A600	£169.95
2.5" 510Mb Internal IDE Hard drive for A1200 and A600	£249.95
2.5" IDE Cable	£8.95

All Hard Drives Come With Installation Software

Other

Item	Price
Naksha Greyscale Hand Scanner for Amiga 500 and 500+	£59.95
Tabby Graphics Tablet	£57.95

DESKTOP MUSIC

Item	Price
Bars&Pipes Pro v2.5	£199.95
Upgrade - v2 to v2.5	£79.95
Upgrade - coverdisk to v2.5	£149.95
Internal Sounds Kit	£24.99
Multimedia Toolkit	£24.99
Peformance Tools Kit	£29.99
Power Tools Kit	£29.99
Pro Studio Kit	£29.95
Rules for Tools	£29.99
PatchMeister	£79.95
SuperJAM! 1.1+	£59.95
SyncPro SMPTE Box	£151.95
Triple Play Plus	£159.95
Aura 12 bit Sampler	£79.95
Megalosound Sampler	£23.95
Music X 2	£49.95
Pro Midi Interface	£19.95
Technosound Turbo 2 Pro **New**	£25.95



For a limited period only we're offering **Music X v2** and a **Microdeal Pro Midi interface** for just **£64.95**, a saving of £5 over the usual prices !

Special Offer — Bars & Pipes v1 Manuals - the perfect companion for your cover disk ! Just £29.95 — Special Offer

GRAPHICS



Imagine 3 Rolling Upgrade program Includes Imagine 3.1 to 4 ! You must have Imagine 3 to qualify. 3.1 - 3.3 in stock now. **£99.95**

3D & Rendering

Item	Price
Vista Pro 3.0	£27.95
Vista Lite	£24.95
Makepath for Vista	£9.95
Terraform for Vista	£9.95
Imagine 3.0	£99.95
Caligari 24	£89.95
Caligari Broadcast v3.1	£249.99
Essence vol 1 + Forge	£79.95
Essence vol 2 + Forge	£79.95
Pixel 3D Pro II	£94.95
Real 3D Classic	£59.95
Real 3D v3	£319.95
Real 3D 2.4 to 3 upgrade	£166.95

Image Processing

Item	Price
Art Department Professional v2.5	£139.00
Epson GT6500 Scanner Software	£89.95
ASDG Pro Control	£50.95
Morph Plus	£129.95
Image FX 2 (AF 95% !!!)	£184.95
DataChrome **New**	£29.95

CAD

Item	Price
X-CAD 2000	£22.95
X-CAD 2000 AEC **New**	£49.95
Includes Architectural Symbol Libraries	
X-CAD 3000	£119.95
X-CAD 3000 AEC **New**	£178.95
Includes Architectural Symbol Libraries	

Painting

Item	Price
Pro Vector 3 **New**	£174.95
DPaint 5	£59.95
Personal Paint 6.3 **New Version**	£49.95
Photogenics	£49.95
TV Paint 3	£329.95
Brilliance 2	£45.95

BOOKS & VIDEOS

Books

Item	Price
Amiga Total! Workbench **New**	£19.95
Amiga Total! Dos **New**	£21.95
Amiga Total! Assembler **New**	£21.95
Amiga Total! Beginners **New**	£19.95
Amiga Basic - A Dabhand Guide	£17.95
Mastering Amiga Programming Secrets	£19.95
Secrets of Frontier Elite	£8.95
Secrets of Sim City 2000	£9.95
A1200 Insider Guide	£12.95
A1200 Next Steps	£12.95
Amiga Disks & Drives Insider Guide	£12.95
Assembler Insider Guide	£13.95
Desktop Publishing	£14.95
Imagine Hints & Tips	£7.95
The Font & Clipart Book	£9.95
Workbench 3 A-Z Insider Guide	£13.95
Mastering Amiga Arexx	£17.95
Mastering Amiga Printers	£17.95
Mastering Amiga Dos 3.0 Reference	£19.95
Mastering Amiga Dos 2 Vol2	£17.95
Mastering Amiga Dos Scripts	£19.95
UK Comms	£19.95

Book & Video Packs

Item	Price
A1200 Beginner's Pack	£36.95
Workbench 3 Booster Pack	£36.95

Videos

Item	Price
Intro to the A1200 - Tutorial	£14.95
Intro to the A1200 - A Deeper Look	£14.95

HOME & OFFICE

WP & DTP

Item	Price
Final Copy 2	£47.95
Final Writer 4 **New Version**	£69.95
Mini Office	£37.95
Pen Pal	£29.00
Pagestream 3	£174.95
Wordworth 3.1SE	£44.95
Wordworth 3.1	£79.95

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Item	Price
Datanexus **New**	£24.95
Digita Datastore	£45.95
Digita Organiser **New**	£39.95
Final Data **New**	£39.95
Twist 2	£89.95
GB Route Plus	£31.95
Mailshot Plus	£35.95
Music Librarian	£22.95
Plants For All Seasons	£22.95

Spreadsheets

Item	Price
Final Calc	£please call
Turbocalc 2	£49.95

Finance

Item	Price
Cashbook Combo	£59.99
Counting House **New**	£49.95
Digita Home Office	£39.95
Money Matters	£34.99
Personal Finance Manager +	£19.95
System 3E	£49.99

UTILITIES

Software Development

Item	Price
Gamesmith	£84.95
Dice C Compiler **New**	£98.95
DevPac 3	£51.95
Hisoft BASIC 2	£54.95
Intos	£25.95
Hisoft Pascal	£74.95

Disk Utilities

Item	Price
AmiBack	£29.95
AmiFileSafe User **New**	£28.95
AmiFileSafe Pro **New**	£68.95
DirWork 2	£29.95
Directory Opus 5	£49.95
Disk Expander	£29.95
Gigamem	£47.95
Infonexus **New**	£25.95
Video Back-up System Phono	£54.95
Video Back-up System Scart	£57.95
XCopy Pro	£19.95

Communications

Item	Price
GP Fax	£44.95
Termite	£31.95

Miscellaneous

Item	Price
Maxxon Magic	£23.95
Studio II Print Manager **New**	£48.95
High Quality Printer Driver	

VIDEO & MULTIMEDIA

Item	Price
Big Alternative Scroller 2	£49.95
Distant Suns 5.0	£27.95
Makepath for Vista	£9.95
Media Point v3	£249.95
Montage 24	£259.95
Scala HT100	£49.95
Scala MM211 **New Lower Price**	£94.95
Scala MM300 **New Lower Price**	219.95
Scala MM400	£249.95
Scala Echo EE100	£139.95
Scala MM400+EE100 **Save £40 !**	£349.95
Terraform for Vista	£9.95
Vista Lite	£25.95
Vista Pro	£25.95

VRL Bundle Packs
Vista Pro or Lite ,Distant Suns, Makepath + Terraform now £54.95
Vista Pro or Lite, Makepath + Terraform £35.95

CD ROMS

Item	Price
Speccy Sensation 2 **New**	£18.95
Aminet 1-4 4 CD pack	£24.95
Aminet 7 **New**	£14.95
Aminet 6 **New**	£14.95
Desktop Video CD	£13.95
Essential Utilities Vol 1 CD	£8.95
Giga Graphics 4 CD pack	£38.95
Grolier Encyclopedia CD	£28.95
GFX Sensation CD	£18.95
Lightworks by Tobias Richter CD	£38.95
Star Trek Multimedia CD	£26.95
Arcade Classics CD	£9.95
World of Clipart Double CD	£16.95
Multimedia Toolkit CD	£27.95
Makin' Music **New**	£24.95
Ten on Ten **New**	£39.95

EDUCATION

Item	Price
ADI GCSE Maths	£19.99
ADI GCSE English	£19.99
ADI GCSE French	£19.99
ADI Junior Reading	£15.99
ADI Junior Counting	£15.99
Merlin's Maths	£16.99
Paint and Create	£16.99
Spelling Fair	£16.99
Noddy's Playtime	£16.99
Noddy's Big Adventure	£16.99

PC Task 3.1



PC Task 3.1 allows you to run software designed for IBM PCs and compatibles on you Amiga ! It emulates a 80286 based PC, so you can run Windows 3.1 and applications like Microsoft Word and Excel. All for just £59.95 !
Upgrade from v2 £34.95 - please enclose your PC Task v2 disk
Upgrade from PD version £44.95 - please enclose your disk

HOW TO ORDER

When ordering, please don't forget to include the carriage charges ! Charges within the UK are £2.50 per item for first class post (which usually arrives the next day). A next-day courier service is available, within the UK mainland and subject to availability, at £6.00 regardless of order size. Please ask for overseas pricing, and pricing for islands & Scottish Highlands.

You can pay by :

Credit Card : Visa, Mastercard, Access, Delta, Switch and American Express. We only bill your card when we despatch the order, not before.

Cheque : Please make cheques payable to Emerald Creative Technology Ltd.

All pricing includes VAT but not carriage. We reserve the right to change prices - you will be informed of any change when you order. Faulty goods will be replaced or repaired if returned within 30 days of purchase. We will refund if we can't repair the goods. It is the responsibility of the customer to check for compatibility of a particular product with existing equipment before buying.E&OE

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Emerald Creative Technology Ltd
Rapid House, 54 Wandle Bank
London SW19 1DW
Tel : 0181-715 8866 Fax : 0181-715 8877
eMail : Emerald@eWorld.com

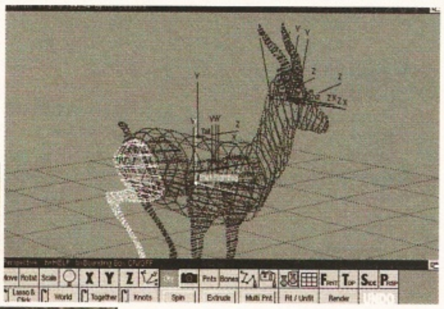
FREEPHONE 0500 749469

ShopperChoice

And we've not finished yet by any means. HiSoft BASIC 1 is just the start. On the Coverdisks this month is also the Licenceware program, Introducing Workbench, which will help out beginners who want to know how to use their Amiga more efficiently. Then, as usual, all the ShopperChoice programs have been split into zones – there are now seven different zones, all packed with useful stuff.

We have added an Information Zone which has the listings for the User Groups and the most comprehensive PD House directory we could compile. The other zones are here too, with applications, utilities, technical, creative, programming and 3D as themes. It makes everything so much easier for you to find – you can look straight at the area that interests you. Enough guff, let's dive in...







FreeForm is an excellent 3D object editor. The objects above were created by Don McCoy and the picture on the left by Susan Ishida. I think they demonstrate FreeForm's capabilities!

ApplicationZone

FreeForm

This is a powerful spline-based 3D object editor which we reviewed in our PD section a few months ago. So impressed was our reviewer that it not only got a much coveted Star buy, it was also considered buy of the month. With such a rating, we tracked down the program's author and got permission to include the package on our Coverdisk; so here it is.

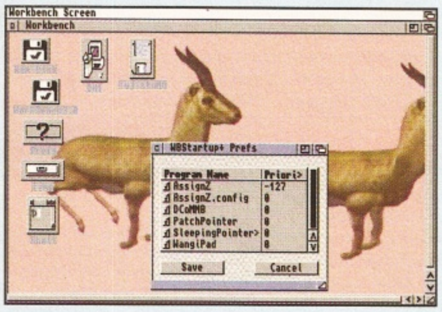
FreeForm can be used to design objects for many 3D rendering programs, such as Imagine and LightWave. Creating an object can be as simple as drawing an outline by defining certain points and then getting FreeForm to calculate the spline curve. If you're trying to make the vase object that everyone attempts, you could then spin the line to create the 3D object.

This release isn't restricted to these types of lathe objects either. You can twist and morph your objects and even make articulated objects through the use of 'bones', just as you can in other 3D packages.

It is also possible to render the objects, but you are restricted to greyscale renderings. As the author suggests, however, you should render your final objects in a different package.

FreeForm technically requires an 030 processor with FPU, but I have had it running

UtilityZone

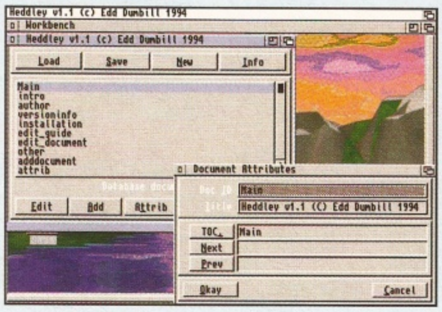


WBStartup+

One of the great things about Workbench is the ability to simply drop programs into your WBStartup drawer and have them launched automatically every time you boot.

If you're using an Amiga with low memory though, it can be a pain when you don't want some of the utilities to be launched and you have to start moving things around. WBStartup+ is easy to install and gives you a Prefs editor to decide which programs you want to be launched, making changing them quick and easy.

The backdrop to the picture is the rendered image of Don McCoy's gazelle object created in FreeForm, pictured above.



Heddley

AmigaGuide documents are great. But creating them can be a bit of a pain – and what if you want a guide file in a different format? Surely you don't have to type it all out again if you want it in html format for a WWW page? And what about stripping a Guide to ASCII?

As you can guess, here's where Heddley comes in. It's not a new program, but it is still the best for fiddling around with Guides. When we created this month's PD Directory, we decided it would be great to include it on our Web site, but who was going to reset it all for use? Heddley, that's who. Over 100 nodes arranged in seconds.



GUI-DOSError

For those who are less than au fait with AmigaDOS and its errors, this program should come as a welcome relief. It translates that meaningless error you get to a rather more English explanation, so you should be able to work out what you are doing wrong quicker.

To use it, simply double-click on its icon. then enter the code number for the error you want information on and GUI-DOSError gives you the explanation.

This has been included because we thought it was an ideal accompaniment to the Licenceware title Introducing Workbench that's also on this month's Coverdisks.

Licenceware: Introducing Workbench and AmigaDOS

Amiga Shopper has joined forces with F1 Licenceware to bring you an exclusive set of disks every month. To begin the series, we're giving away the full version of F1's most popular title, Introducing Workbench, to help you get the most from your Amiga.

Introducing Workbench is on two disks, called WorkbenchX.X and Extras X.X, and you just need to boot the first disk. The program is designed to look just like Workbench, but when you click on a function, instead of performing it, you are given information on the function, how it works and shown a picture or animation.



It is the ideal introduction for those who have tired of games playing and want to know just how to start to get serious.

Understanding the Workbench environment is the first and most important step to making the most out of your Amiga. You'll find it much easier to customise your programs, install software and solve the little problems that always arise – once you understand how the Amiga works of course.

So for all those beginners who have been badgering us to help them out and provide a tutorial to get them started, here's the ideal interactive solution!

(Note that you can still install these programs directly to a hard drive, but you need to make some assigns and look at the StartUp-Sequence. And if you know how to do that, you're probably not in need of Introducing Workbench!)



And if you want even more information, you'll be glad to know that F1 have just released the next version of this program. It now comes on four disks and is for Workbench 2 and above. You can get it for £6.99 from F1 Licenceware on ☎ 01392 493580. This latest version is reviewed in PD Select, on page 72.

on an 020 with FPU. Don't forget to register FreeForm if you use it on a regular basis.

Texture Studio

There's a true treasure-trove for 3D lovers this month in the Application Zone because our second program is a texture creation package for Imagine users. Texture Studio loads texture modules in Imagine 3 format. The parameters of the texture can be adjusted quickly by means of slider gadgets or by typing in the numbers. The texture can then be mapped on to a plane, cylinder or sphere and rendered to a preview screen and/or as a 24-bit image to disk.

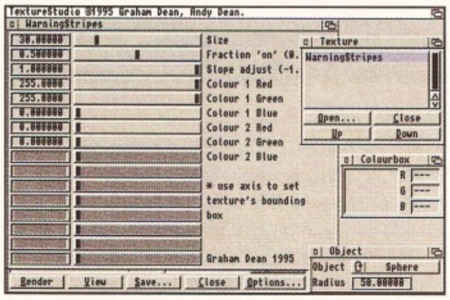
Many aspects of the texture and render can be altered, including axis position/alignment/size, lighting settings, object colours and object size. It allows you to quickly render the texture and explore the effects of changing various parameters without the need to raytrace a new image each time something is altered.

Texture Studio comes from the same people who brought you ImageStudio 2, which was included on the Coverdisks of AS53, so you know you'll be impressed.

InformationZone

This is a new zone that has been created to help you find the information you want as easily as possible. In the Information Zone is the PD Directory, which has the details of every PD house we could find.

We canvassed over 100 PD houses in order to compile this listing, so you should be able to find any details you need. The document is in both AmigaGuide and ASCII format – if you've got AmigaGuide, you can just point and click. This has also helped us save space in the PD section of the magazine, where we couldn't give you the address of every PD house that supplied material for review. Which means that



Texture Studio is a texture creation package for Imagine users, from the makers of ImageStudio.

we managed to cram in reviews of 30 new Public Domain products!

There is also the User Groups listing, which is another attempt to provide a comprehensive guide to every Amiga User group. Like the PD Houses, they have been sensibly divided up and provided in both formats, so you can find what and who you want with ease.

If you want your name and address adding to either of these lists, simply fill in the form that's provided in the documents or better, send us an ASCII file with your details. We shall be keeping both lists as up-to-date as possible.

TechnicalZone

In this month's issue you'll find a comprehensive feature on storage (page 20), so we thought it would be useful to include some related utilities on the Coverdisks. In the Technical Zone, you'll find a brilliant set of programs to help you get the most out of your drives.

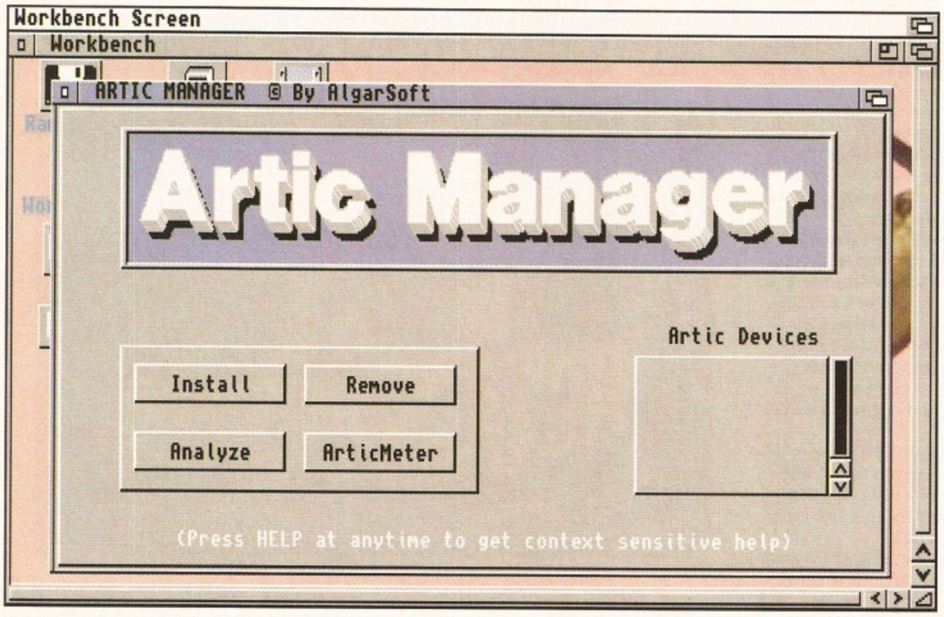
- **Artic1.7** is a disk expander that transparently packs and unpacks files for you, which helps you get more on to your hard disk. Unlike most expanders, it's easy to set up and doesn't require you to format a separate volume, it sets up a pseudo volume using a specified directory. Artic1.7 is easy to install and also has an un-

12

3DZone



We're just pampering 3D users this month, because in addition to the two fine programs in the Application Zone, there's also a set of objects, as usual, here in the 3D Zone. There are four objects, all for LightWave – they include the land-mass and plane pictured here. Imagine users shouldn't dismay, because if you are a subscriber you'll find a huge Imagine object on this month's Subscribers' disk.



Artic1.7 transparently packs and unpacks files so you can get more on to your hard disk.

installation script to help you to remove it should you want to.

- **AmiCDFileSystem** allows you to access Macintosh CD-ROMs and, if you have a HD floppy, Mac floppies as well. It's cheaper than forking out £100 for Cross-Mac!
- **CDROM WB** makes it possible for you to boot CDs from Workbench, so you don't have to fiddle around with your StartUp-Sequence.
- **HD Patch** solves one annoying problem that high density floppies have. When you attach one, the software insists on flashing a CLI message every time you boot. This patch allows you to redirect the output to nil:, thus stopping the message appearing. It solves the one gripe I had with these types of floppy drives.
- **Swap Mode** is actually a monitor utility, and since the Supertest this month is on monitors (see page 26), we thought we'd include it on the Coverdisk. It attaches to the Tools menu on Workbench and allows you swap between 50MHz and 60MHz.

Besides these programs, you'll also find this month's **datatype**, which is for TIFF images.

What do you think?

We are always interested in your response to the Coverdisks. So to help us to tailor the disks more to your wishes, study the questions below and send your answers to: Coverdisk Comments, Amiga Shopper, 30 Monmouth St, Bath BA1 2BW.

- **How would you rate this month's Coverdisk on a scale of 1-10?**
- **How do you rate Amiga Shopper's Coverdisks in general?**
- **Which Zones do you like best?**
- **Which Zones do you dislike?**
- **What would you like to see more of on Amiga Shopper's Coverdisks?**
- **Do you like or dislike the de-archiving process we use for the disks?**

Subscribers should note that they can also find the brilliant companion program, TIFFview, on this month's packed Subscribers' disk.

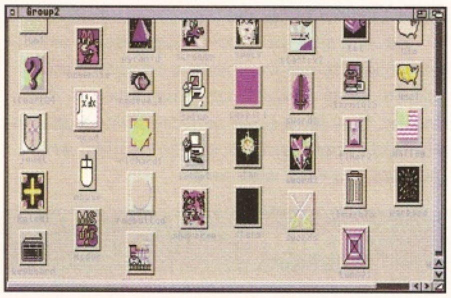
ProgrammingZone

DCCII

DCCII is an Intuition Interface for Matt Dillon's DICE C compiler. The original compiler can be quite daunting, so the intention here is to provide you with one that is easy to use.

All you need to do is enter the input and output files and any link libraries.

You can load DCCII from CLI or from Workbench, using the Execute command – double-click and then click on OK to load it.



Our set of icons will spruce up your Workbench.

Disk contributions

This month's disks were compiled using files from Aminet and from Walton's Mountain BBS, ☎ 0181 891 5730, and with the help of the authors of the programs.

If you would like to contribute to a future disk, whether it's a full application, utility, 40K demo, clip art, font, 3D object, or even a module, send your disk to:

David Taylor,
Amiga Shopper Coverdisk Contributions,
30 Monmouth Street,
Bath, Avon BA1 2BW.

Remember, the smaller it is, the more chance that it will be included. Also, please do not powerpack any files because it detracts from the archiving.

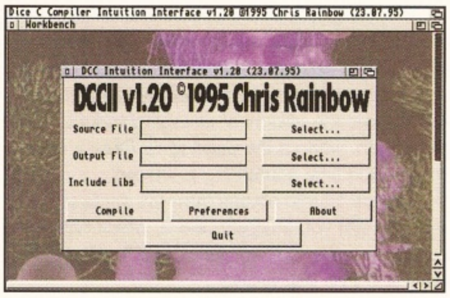
Shareware notice!

Remember that a number of the programs on these disks are some form of Shareware. AS have compiled the disk with the help of the authors, who have received no fee from AS. So, if you keep and use these programs, you *must* register. Some people only want a postcard, so *please* put in the effort. They did when creating the program.

CreativeZone

Add the personal touch to your Workbench this month. In keeping with the storage utilities, we have adapted the Creative Zone, and included a set of icons to help the programs and directories on your disks look flashier.

There are hundreds of them, so you should find ones to suit you. You should note that because there are so many small files, this disk takes quite long to de-archive to a floppy disk. Just thought I'd warn you! ■



DCCII is an easy-to-use Intuition Interface.

Subscribers-only disk



Lumme! A third disk free, you say?

Yup, that's right, in addition to all the other benefits that subscribers to Amiga Shopper enjoy, they receive a third free disk. Every month we put together a disk that's exclusive to Subscribers and this month is no exception. Just take a look:

TiffView, the viewer written by the author of this month's datatype, can do much more than just show TIFFs. ExtraInfo is a full replacement for the rather wimpy Workbench command. ZShell is a complete upgrade of your Shell. Then there's WB backdrops (over 40 of them!) and another 10 packages.

Lumme. Again.

So don't miss out again, subscribe today. See page 66 of this issue or ☎ 01225 822511 now.

News

This month in Amiga Shopper's news pages: new Amigas on the shelves; virtual reality head-sets; Canon price slash; new CD-ROM releases; Amiga movie-makers. And more!

They're here!

Amigas will be on the shelves in all the Escom shops around the country in the week of 18th to 23rd September, according to Jonathan Anderson of Amiga Technologies UK. As this issue of Amiga Shopper goes on sale on 19th September it should hit the streets at the same time as the new machines.

Amiga Technologies revealed the prices of the three new Amigas at a recent conference for the Amiga press in Heathrow. They also announced the release of their new Virtual i-glasses – see the box on the next page for more about them.

But back to what we've all been waiting for – the new Amigas. The entry-level A1200 pack will have a 68020 processor, Workbench 3.1, plus a software pack (more on this below) and it will set you back a cool £399, including VAT, as we told you last month.

The A1200 hard drive pack includes a 170Mb hard drive, plus Scala MM300. It costs £499, including VAT.

The A4000T will have a 25MHz 68040 processor, Workbench 3.1, a 1Gb hard drive, 6Mb RAM, the software pack, plus Scala MM300 and will cost £1,899 plus VAT – totalling £2,230! Lumme! And apparently, an A4000 will appear at the end of November which will have a 68060 processor, although we don't yet have a price for it. There will be no modification on the A4000's casing for this year, but "enhancements will be made on current machines for sure".

Jonathan Anderson (General Manager of Amiga Technologies GmbH UK) phoned Amiga Shopper just as this issue was going to press to reveal the contents of the software pack to be bundled with all new Amigas. Each pack will contain Digita's Wordworth version 4SE, Digita's Organiser version 1.1, Digita's Datastore version 1.1 and Digita's TurboCalc version 3.5.

Amiga Shopper asked Jeremy Rihll of Digita about these four software packages: Wordworth 4SE is a special version of Wordworth. New features include drag and drop style sheets, ARexx and lots of performance improvements: basically it's a lot "faster, slicker and smoother". It also has full integration with the spreadsheet program, TurboCalc 3.5, as do all the other Digita products.

Digita are also now the UK distributors of the German-made TurboCalc and will be providing support for it. They will also publish any new versions of the package. Wordworth 4SE is a special custom version of the package produced only for the Amiga bundle.



Plans for the new A1200 include an external CD-ROM and extra RAM.

"There is no intention to **spend** money on advertising."



The A4000 Tower's case won't be redesigned for this year.

Apparently, Digita won't be releasing version 4SE as an upgrade because they are planning to launch a brand new version of Wordworth at the end of this year which will include many more improvements. Print Manager will also come with Wordworth 4SE.

The database, Datastore 1.1, is a maintenance upgrade from version 1.0. In other words it has a few minor improvements and bug fixes, plus it also has file integration with TurboCalc. Organiser 1.1 also has bug fixes and corrections, and it includes 1996 diary themes, plus the file integration with TurboCalc.

Cloanto's Personal Paint 6.4 will also be in the Amiga bundle. This new version has full 24-bit colour support and includes animation and PND file formats. According to Mr Anderson it "walks all over DPaint". Also included in the pack is the excellent image manipulation package Photogenics 1.1.

The two games bundled with the new Amigas are Whizz from Flair Software – a platform game aimed at youngsters – and Pinball Mania from 21st Century Entertainment. Amiga Format reviewed Whizz A1200 back in their May 1995 issue and weren't too impressed with it – they only gave it 38 per cent!

The value of this bundle of software is in the region of £460, which rather takes the sting from the tail of the price of the new Amigas. Except for people who already own the software and just want to upgrade, that is.

We asked Mr Anderson whether it was true that SDL and Leisuresoft will be the new trade suppliers for the Amiga (as was recently reported in CTW), but all he would say is that the contracts hadn't been signed – but by the time you read this the deal will have gone through. There will be one or two additional distributors in 1996 (including one exclusively for the Irish market).

Amiga Technologies will also be selling Amiga M1438S multisync monitors. These have a 14-inch screen, .28-inch dot pitch, a horizontal frequency of 40KHz, and are compatible with all Amigas. They will cost £299 and will be on sale with the new Amigas. There are plans to release 15 and 17-inch screen monitors ready for next year.

There is no intention to spend money on advertising the new Amigas: Escom's initial investment when they bought Commodore, and the money they have spent getting Amigas back in the shops, leaves them without an advertising budget.

Petro Tyschtschenko said that Escom had spent "several times their initial investment" in re-launching Amigas and they had had difficulty getting parts for

Three dimensional vision

The other reason for the recent press conference was Amiga Technologies' new American sister company, Virtual i-O, who have produced the new Virtual i-glasses. Denis Premiski of Virtual i-O was there to tell us all about them.

There will be two versions of the i-glasses. The video version weighs 240 grammes and will work with anything that has a composite video output: Amigas, Apples, IBM-compatible PCs, VHS videos, the Sega Saturn and the Sony PlayStation, etc.

Not only can you use the i-glasses to play games, but you can view films and TV programmes in 2D or 3D. Films are being produced in 3D format to be viewed with the i-glasses. The video i-glasses aren't cheap, however – they will retail at £599. We had a play with the glasses at the conference (see pic) and were impressed with the image quality and the fact that they don't completely obstruct your peripheral vision. But they are a little on the flimsy side – you would have to treat them carefully.

The other version of the i-glasses is intended for use with PC games. It differs from the basic i-glasses because it includes a motion detector and a VGA to composite video convertor. It's also a lot more expensive than the basic glasses at a hefty £899. However, Amiga Technologies intend to develop these glasses for use with the Amiga by removing the VGA to composite video connector, which should also reduce the price considerably.

Amiga Technologies want to sell the Virtual i-glasses in many different areas. They intend them to be used in hospitals, in engineering, architecture, real estate, for viewing erotic videos (they kept pointing out that German videos were much more explicit than ones available in the UK!), 3D video sports events, music clips, educational use, travel: on airlines for in-house entertainment and in cars (!) – presumably to keep passengers quiet. The glasses will also be sold to dentists so their patients will have something to keep their minds off the drill. Personally, I'd rather know exactly what was going on while in the dentist's chair!



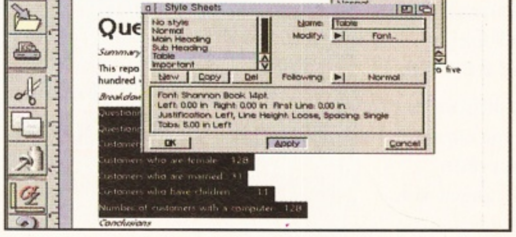
Virtual i-glasses will be available in September from all Escom dealers – there are 25,000 units planned for Europe to begin with. There will also be a special Virtual i-glasses support club for users.

construction of the new machines – especially for the A4000 Tower because it is really a completely new product (only 200 units were ever produced by the old Commodore worldwide). However, they fully intend to start spending advertising money in 1996.

All of the Escom shops will have Amigas for sale, and Amiga Technologies assured us that the staff in those shops know the technology well and are ideally suited to selling the machines. (Anyone who has ever bought anything from a Rumbelows store in the past may see reason to question this premise, of course.)

A4000 motherboards are being produced near Philadelphia in the USA, and UK A1200 units will be assembled in Germany. There will be 100,000 Amigas produced for this year, 60,000 of them intended for the UK and around 35,000 will be sold in Germany.

As far as repairs and servicing of the new Amigas are concerned, because the A1200s will be manufactured in France at the Selectron factory in Bordeaux, and worldwide distribution will be centred in the Netherlands, Mr Tyschtschenko stressed that the European quality of manufacture of the machines will reduce any defective returns to a minimum. Servicing will be centralised in Braunschweig in Germany with technical dealer support available there too. Amiga Technologies do not intend to repair machines, but instead change components. Servicing of existing Amigas is covered by the old Commodore, although new replacement parts will be available.



A special version of Wordworth, 4SE will be on sale with the new Amigas.

The panel at the conference were not prepared to talk about research and development at any great length. However, they did say that Amigas will be enhanced with faster processors – an 060 for the A4000T this year and an A1200 will be produced with an external CD-ROM and more RAM.

Amiga Technologies are also keen to work with third party companies who they praised for their past support of the Amiga. Not only have they signed agreements with Scala but they are also in negotiation with companies like Premier Vision, Thorn EMI, Pentre Technologies and Communik8.

But what happened to the CD^{32}? Well, it's set for development as a set top box which will "open new markets for Amiga products". Around 140,000 CD^{32}s were produced by Commodore – but only 60,000 were sold at the RRP. There won't be any of the new CD^{32}s available this year, but they should appear in the first quarter of 1996, maybe in a new housing.

The new Amigas were officially presented at the Internationale Funkausstellung (IFA) fair in Berlin, which took place on 26th August to 3rd September. And don't forget that you'll also be able to see them at LIVE '95 on the Future Publishing stand – someone from either Amiga Shopper or Amiga Format will be there every day of the show to answer your questions, too. LIVE '95 is on 19th to 24th September at Earl's Court in London. Advance tickets are available from the organisers on 0171 396 4545.

Amiga Technologies are setting up a World Wide Web server and FTP site – they may be ready by the time you read this. In the meantime, send your E-mails to Amiga Technologies at gbo@amiga-tech.de. ■

Tit**bits**

Price bonanza!

Canon UK have slashed the price of two of their colour printers. The BJC-4000 now costs only £349 (plus VAT) and the BJC-600e has been cut from £499 to only £449 (plus VAT), a reduction of £50 on the RRP of each printer.

If you want to know more about the BJC-4000 and BJC-600e, they were reviewed in our Supertest in issue 51 (July 1995). Call Canon UK on ☎ 0181 773 6000, for details.

Now turn to page 45 where you could win a Canon BJC-600e for free in our special competition.

Great inspiration

Now there's another new club for Amiga users. The Inspira Software Club sends its members a bimonthly magazine and offers discounts off commercial software. You can save £10 on the price of Final Writer 4 from Softwood, and Final Copy 2 can be had for £5 less than the usual price. Inspira are also offering its members 10 per cent off Active Software and Saddletramp PD's CD-ROM titles.

For more details call Inspira on ☎ 0181 590 2546.

In the picture

Paul Hamilton was upset that we used one of his pictures in our news pages in our September issue without a credit. He originally submitted his snowman picture for our Amiga Answers competition. We apologise to Paul, but warn other readers that we may use their entries elsewhere in the issue, as we now clearly state in Amiga Answers.

Making movies

Chaim Bianco made his first film, The Pope Of Utah, using an Amiga. Apparently, it has already won the director an award or two and 'pioneered the use of Amigas in lower budgeted film-making'.

Chaim describes his film as a darkly satirical comedy set in the near future.

We haven't seen this film yet so we really can't comment on its quality, but it is available on the Screen Edge label from High Street video stores from 25th September and costs £12.99.

▶ 17

Sister act

AMIGA FORMAT

Incoming message from ZZ Plural Alpha dimension…

It's escape from reality time on Amiga Format next month, as we leave this dimension for the three dimensions of our superb Coverdisk package, Real 3D. This is the full 'classic' version, release 1.4, and includes all the files from the original four-disk release.

To accompany this tremendous software, we have included a free 64-page book to help you get the most out of the software. This is the most tremendous giveaway package ever, so be sure to reserve your copy in your local dimension newsagent as soon as possible. …message ends.

Nick Veitch, Editor



What exactly's going on with the Amiga games scene then, huh? No sooner have we braced you all against the possibility that new games could well dry up and stop being released within the year, than we're getting deluged by all manner of fantastic-looking preview copies. It seems that the Amiga's going back to its roots, and now all the fat-cat cash-in companies have foolishly bailed out of their most lucrative market, smaller dedicated sets of programmers are taking up the slack. So although it's a slow month for releases (again, although the Summer's over soon), we've got loads to read about and loads to look forward to. Oh, and there's some great demos and the same old dozen-or-so jokes. You know, just as usual.

Amiga Power 54 out on Thursday, 21st September.

Cam Winstanley, Editor

New from White Knight

Video enthusiasts will be pleased to hear they can now get hold of the V-Lab Motion video editing card and the Toccata 16-bit sound sampler from White Knight Technology. German company, MacroSystem, have appointed White Knight as the official UK distributor of their products.

White Knight are also offering 3D animators a variety of special services. These services include rendering, animation recording, digitising, file format conversion, data translation and non-linear and traditional video editing. The packages supported are LightWave 3D, Real 3D and Imagine 3. If you want to know more about these services, talk to White Knight and they will tell you how to submit your material and exactly what they can do with it!

Still on the subject of 3D, White Knight now have the first professional distributive rendering software available in the UK. The software is called T-Net and it is for use with LightWave 3D. It is produced by Interworks in California and will cost around £249 for a five-user licence.

For more information about all these products, contact White Knight on ☎ 01920 822321.



Free software!

Remember that Amiga Shopper can be found on Future Publishing's Internet site. FutureNet is growing faster than a speeding bullet (er… probably), with more and more people accessing its pages every week. Point your browser at:
http://www.futurenet.co.uk/computing/amigashopper.html
to find your favourite Amiga magazine. We are busy setting up an ftp site too, from where you'll be able to download great new programs for free! We'll tell you how to access this new site next month!

Scan**tastic!**

Hand scanner owners can take advantage of the new Migraph Multi-Pass OCR software from Golden Image. This software turns scanned IMG and TIFF documents into editable ASCII text files. It recognises a wide range of typefaces and point sizes and can even learn new characters and store them in its memory.

The Migraph Multi-Pass OCR requires any Amiga with 4Mb RAM and a hard disk to work and costs £49.95. The standard version, requiring any Amiga with 2Mb RAM and a hard disk, costs £35.

Contact Golden Image (UK) Ltd on ☎ 0181 900 9291 if you want to know about upgrading to Migraph Multi-Pass OCR!

CD-ROMs today…



Three of a kind

There are lots of new CD-ROMs about to be released.

E.M.Compugraphic, for example, are working on three CDs containing a mix of fonts, clip art and images. Nothing new in that, but they promise that every font on the CDs will have an IFF preview screen, so you can see it before you load it into an application; and all the clip art and images will be cropped, scaled and sorted into directories and sub-directories. They also promise that all three CDs are aimed specifically at the Amiga user.



The first disc is available now for £24.99 (plus £1 p&p). For more info contact E.M.Computergraphic on ☎ 01255 431389.

A red herring?

Amiga Library Services and Fred Fish also have a shoal of tasty-looking discs on the horizon. First there is the catchily-titled FrozenFish, August '95. This disc contains the original 1,000 Fish disks, plus 100 new ones.

Another fish in the fryer is FreshFish, Volume 10. For more info on both discs contact Amiga Library Services on ☎ 001 602 491 0442.

Picture discs

PDSL have also been busy putting CDs together. They have four gems for your collection. Desk Top Dream, (a collection of clip art and true type fonts), Image Library (7,000 of them), Your English Heritage (500 photos of buildings, features and scenes) and Golden Ages Images (600 Victorian and Edwardian images). All four CDs cost £21 each. For more details contact PDSL on ☎ 01892 663 298.

We'll be taking a look at all of these CD-ROMs next month.

SPEEDCOM MODEMS

Our highly rated, top quality feature packed modems are ideal for Amiga users. All modems include our **FREE MODEM ACCESORIES PACK (worth £19.99)** which includes a cable to connect the modem to the Amiga, NCOMM comms software, Amiga Guide to Comms and a list of Bulletin Boards from which you will be able to download vast amounts of free software as well as have access to E-MAIL facilities.



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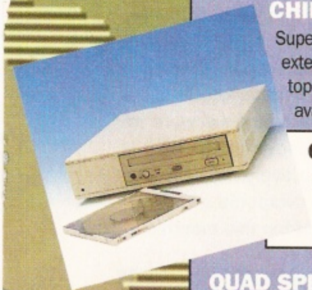


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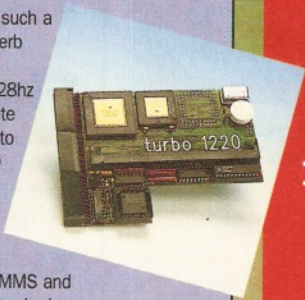
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APOLLO 1220

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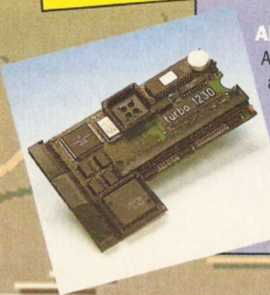
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DATAFLYER SCSI+



The Dataflyer is a 16 bit SCSI II controller card that converts the signals on the internal IDE interface to also run SCSI devices at the same time as the IDE hard drive.

The Dataflyer SCSI+ will operate upto 5 SCSI devices such as CD-ROMS, hard drives, SyQuest removeable drives, tape back up drives etc.

Unlike other SCSI interfaces, the Dataflyer SCSI+ is compatible with all known accelerators etc and it does not stop you from utilising any of the important expansion ports on your A1200.

The Dataflyer SCSI+ easily installs into the A1200 (simply pushes in, no need to remove the metal shield) and provides a 25 way D connector through the blanking plate at the back of the A1200. Full instructions and software supplied.

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Storage solutions

There was a time when mass storage meant getting a hard drive. Not anymore, there are now more ways than ever to store your data. **David Taylor** *looks at all the possibilities.*



The XL 1.44 drive is a cut above normal external floppy drives, but costs more, too.

As you start to use your Amiga for serious work, you soon discover that a single floppy drive is not going to get you very far. The question is, what do you buy? Another floppy? A hard drive? A CD-ROM, a Zip, a magneto-optical (MO), a SyQuest, a PD drive? Whoah! What happened? Well, what happened was a veritable explosion of choices, which can only be a good thing for the consumer. We'll look at every type and access the pros and cons.

Floppy drives

One of the first additions many people make to their machine is an additional floppy drive. It's worth taking a little time before simply splashing out. Not all floppies are the same.

XL 1.44

The internal drive on most Amigas, the exception being the A4000, is a double density drive, which means it can only read/write these disks. IBM PCs and Apple Macs both have drives that can read/write high density disks (as well as the double density).

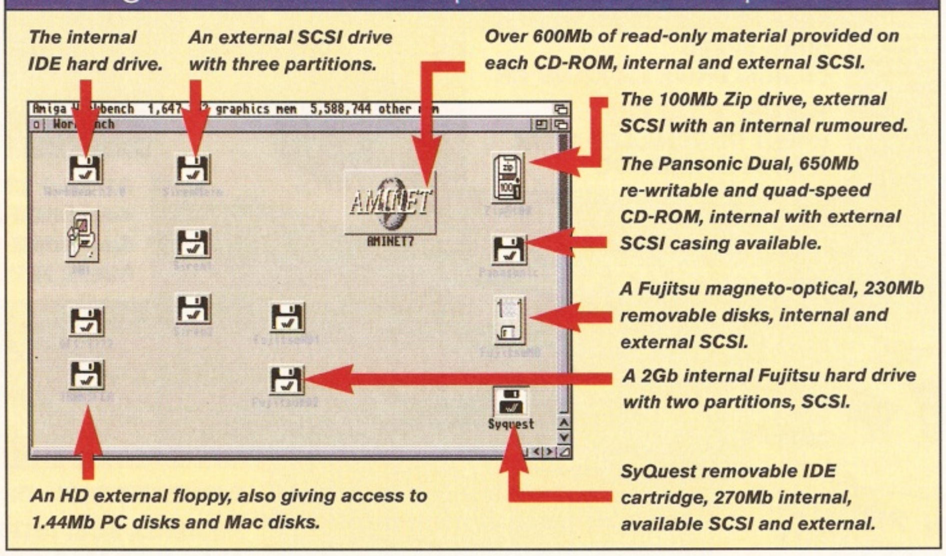
A high density disk on the Amiga has a capacity of 1.7Mb, as opposed to the 878K double density. More importantly, not only can you get more storage on the Amiga side of things, with the right software you can also read PC and Mac HD disks. If you are using your Amiga for work, it's more than likely that you'll quite often want to swap data between platforms, and doing it with double density disks is a pain, especially with picture files that are often larger than the 713K that DD PC disks are capable of holding.

For converting files between platforms, life is much easier with an HD floppy. CrossDOS, which comes with later releases of Workbench, allows you to read/write to the PC side of things, and various programs allow you to read Mac disks (there's one such program on this month's Coverdisks: AmiCDFileSystem in the Technical Zone). Writing to a Mac is a different matter, and you need to buy additional software, such as CrossMac.

Fitting an external drive is simple. Attach it to the Amiga and turn the computer on. To allow you to read HD disks, there's a little software to be installed, which has an annoying habit of informing you of its presence every time you boot. This can thankfully be overcome with a patch (which you can also find in this month's

> "For converting files between **platforms**, life is much easier with an HD floppy."

All together now: a composition of the options



Technical Zone on the Coverdisks). Once you're done, you're up and running and there are no problems. If you want an external drive, consider this as well as a normal DD. If you are working across platforms, this wins hands down.

XL 1.44

Price: £84.99
Supplier: First Computer Centre
Contact: 0113 231 9444
Verdict: 90% Star buy

Hard drives

Next on everyone's list is a hard drive. Despite all the other types of drives available, this tends to be the one at the heart of every user's system. It's not surprising really, because nowadays they are cheap, reliable, easy to set up (mostly) and fast. There are several types of hard drive available. A1200 users can fit either 2.5" or 3.5" IDE drives internally. The cost of the latter has dropped dramatically recently and although they are a little tricky to fit (it's easy enough to pay the dealer to fit it for you, and some will even do it for free), they work out cheaper per Mb than a 2.5" drive. These drives add an immediate power and flexibility that can transform your productivity. Despite all the other types of drives around, the hard drive remains the immediate choice for initial upgrading, mainly because it makes it easier to then attach other drives which often need to access software drivers – storing these on a floppy is difficult and defeats the object of getting a faster drive.

Siren SCSI External

In addition to the IDE drives, you can also fit SCSI drives. To use these drives you must have a SCSI controller, of which there are now several available for even low-end machines. Once you have a SCSI controller fitted, attaching these drives is easy – plug the lead in the back and switch on. The software should then auto-mount the drives and all you may have to do is format the partitions.

If your SCSI controller doesn't allow auto-booting, it is conceivable that you could put the necessary software drivers on a floppy disk and mount it from there, using it as your first hard drive. However, with these controllers, it is much more sensible to use any SCSI device, if you already have an internal hard drive.

Indeed, for those who have an internal drive whose capacity they have outgrown, SCSI drives tend to be the ideal opportunity for expansion. However, think carefully before opting straight for another hard drive above some of the other removable media, which allow constant and cheap expansion.

Hard drives like the Siren SCSI External continue to keep the lead in terms of speed – it outperforms my internal drive quite considerably, but the speed of the new media is fast closing the gap. The added flexibility can add the edge for those who continuously need more storage space, while the cheaper hard drives are best for those who know exactly how much room they need. This drive ranges from 420Mb to 850Mb, with prices between £214.99 and £284.99. Bear in mind that comparatively sized IDE drives are around £100 cheaper.

Top tips for protecting your data

1 **One of the first things you should do when you start to use data is make sure you always have a Virus Checker running. Believe me, viruses might be getting scarcer on the Amiga, but if you get one, you're going to be very unhappy. There are several checkers available. The most famous is John Veldthuis's Virus Checker, which was included on AS52's Coverdisks and sits in the background checking every disk as it is inserted. There is also a professional, commercial package now available called Siegfried's Antivirus Professional from Siren Software. This is not a background checker, but a program you launch to scan specific disks.**

2 **Back-up your drives as often as is feasible. Losing even an hour's work is irritating, so losing a month's efforts will send you psychotic. There are programs to help you back-up your drives, like MRBackup on AS54's Coverdisks. If you can stand the idea of re-installing your software, at least make certain that you copy as much of your data to a second place as often as possible. It's a good idea to keep a back-up of your work on floppy for real emergencies.**

3 **There are several ways of increasing the amount of data you can store on a device. For floppy disks, there are some PD filesystems, such as Diskspare, that enable you to fit up to 980K on a single DD floppy disk just by adding the software that comes in the distribution to your system. You can get this program from a PD house – pick one from the PD Directory on this month's Coverdisks. These extra-capacity disks are only for use as data storage and can't be auto-booted. Then there is AmiFileSafe from Fourth Level Developments, a commercial release, based on a PD program, that not only increases the capacity of your drive, but also speeds up access to the drive consderably.**

4 **Stacker-type programs can also increase the amount you can fit on a drive. These are programs that automatically, and invisibly, pack and unpack data and programs as they are stored on specified drives or in certain directories. One of the most flexible is a Shareware package called Artic, which is on this month's Coverdisks in the Technical Zone.**

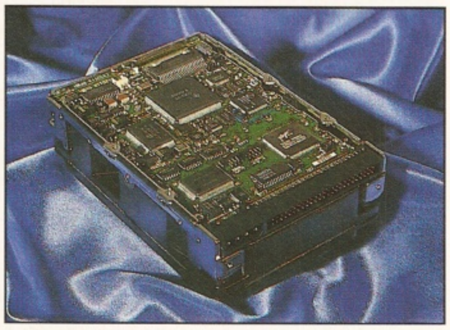
5 **Get a disk doctoring program, like DiskSalv, because should you trash a drive, you may be able to recover some or all of your data. The latest version fo DiskSalv is commercially available from Almathera.**

6 **Shop around! It might sound stupid, but you can save lots of money by scanning adverts, because some suppliers buy in bulk and sell the drives for a great deal less than the RRP. You can save hundreds of pounds.**



A 420Mb external SCSI drive. Not bad.

"The hard drive remains the **immediate** choice for initial upgrading."



A 2Gb internal SCSI hard drive. Not very easy to set up, but it sure makes you drool.

Siren SCSI External

Price: £214.99 and up
Supplier: Siren Software
Contact: 0161 796 5279
Verdict: 78%

Fujitsu M2932SAM

For those who have the ability to house SCSI devices internally, drives can be bought cheaper than those with separate casings. The Fujitsu M2932SAM was a rather incredible 2Gb drive, that's 2,000Mb, which is something home users wouldn't have dreamed of owning just a couple of years ago.

Setting this drive up is a little more tricky than most, but it works fine if you persevere. It's first necessary to make sure the jumpers are set correctly. (Jumpers are tiny switches that are set to on or off depending on whether a tiny connector is fitted.) This way the correct SCSI ID number is set and termination is on (or off). Like all hard drives, it comes set to ID 0, which conflicts if you already have a SCSI hard drive, as that is likely to be set to the same number.

Once this is sorted out, you need to load a HDToolbox that can handle SCSI drives and inform your system of the drive's specifications. With most drives this is simple, because they support the SCSI inquiry command which allows the software to get the necessary information from the drive. This drive doesn't, so you have to enter the information manually, which is mostly fine, as the number of heads, etc. are shown. To get the capacity of the drive it was trial and error entering the number of cylinders, because the figure provided didn't correlate. Formatting the two 1Gb partitions fully

Case the joint

Many of the SCSI devices can be bought as either internal or external devices. The difference in price between the two can be quite surprising – as much as £80 per unit. If you have a box Amiga then you can take advantage of the price difference, but if you are using an A1200 then think about how many devices you will want to attach in total. If, for instance, you know you don't need anything other than an additional hard drive and CD-ROM, then you can get them housed in a single unit like the Prima Combo from First Computer Centre, ☎ 0113 231 9444.

On the other hand, you might not be sure how many devices you may eventually add, or may want to add the more unconventional devices. If this is the case, then it's worth considering Hi-Q's Powerstation (AS51, 90%). This allows you to house five SCSI devices, is easy to fit drives to and can be bought bare for under £100, which compares favourably to individual casings which are only slightly less for each unit! It can save you a fortune – up to £400 if you fit five SCSI devices.



The PowerStation can save you hundreds of pounds in external casings for SCSI drives.

on an old A1500 was perhaps a mistake, because it took over three hours, so thank heavens you only need to format once!

I have one other annoyance, which is that when you cold-boot, the drive doesn't spin up fast enough, meaning you have to reset the machine for the drive to appear. Some SCSI controllers can be set to wait longer for drives, which will alleviate this problem.

Once you've got the drive up and running, everything's fine. I have to admit that having 2Gb of fast storage space available is ace. It's certainly not the fastest hard drive, but I can put anything I want on there. You get smooth playing CDXL video and it's ideal for those who need to record large animations or sound to disk. Eventually you'll fill it up, but I can't see you needing to keep 2Gb of programs on-line.

M2932SAM

Price:	£530 + VAT
Supplier:	Fujitsu
Contact:	0181 573 4444

Verdict: 90% Star buy

CD-ROM drives

CD-ROM drives started the multimedia revolution that we're supposedly experiencing. Nobody seems to care that the Amiga has always been a multimedia machine, but there you go. What CD-ROMs *definitely* did is bring mass storage to users as cheaply as possible. The obvious drawback is that they are read-only, but after you've bought the drive, you can get 650Mb of data and programs for under £20 (mostly). CDs are ideal for libraries, and they make it possible for you to obtain a whole selection of one type, be it sound samples, modules, animations, clip art, etc., in one purchase. Then there's the chance to buy the Aminet catalogue for a fraction of the price you'd pay in telephone bills downloading it all.

CDs have come in for some flak, with some developers accused of churning out products containing old software that has been seen before, just to make a fast buck – which isn't popular considering many of the programs are supposed to be Freeware and not sold for profit. Bear in mind though, that for the price of 20 PD disks, you're getting over 600, making CDs one of the cheapest ways of obtaining PD.

CD drives themselves have advanced quite rapidly. The original single-speed ones are now relegated to the use of second drive or for the severely fiscally-challenged. Dual-drives are now pretty much standard, but there are also quad- and 6x-speed drives. The drives are mostly SCSI, internal or external, although you can get a quad-drive from Silica that plugs directly into the PCMCIA slot.



The Aiwa is the best dual-speed I've seen.

> "CD drives themselves have **advanced** quite rapidly."



4x CD-ROM? Passé, mate. Take a look at this 6x and start saving your pennies.

Aiwa ACD-300

This is an external SCSI drive. Although it's a dual-speed, its strength lies in its design. It has auto-termination and sound outputs, which are quite standard, but unlike any other drive, it has an LCD display that details certain information. For CD-ROMs it tells you the SCSI ID number, and it also displays information about Photo CDs. As a coup de grâce, it provides all the information for audio CDs that you'd expect to find on a normal audio CD player. In fact, it is ideal as a normal CD player as well, because it has all the controls on the front, so you don't even need to have your computer turned on.

In terms of CD-ROM performance, the AIWA ACD-300 is as good as any dual-speed, meaning copying files is slower than a hard drive and you'll wait for some files to copy, but should be sufficient for most users. It's also quite cheap considering it has the external casing.

Aiwa ACD-300

Price:	£169.99
Supplier:	First Computer Centre
Contact:	0113 231 9444

Verdict: 90% Star buy

NEC 6Xi

The difference between a dual-speed and a quad-speed drive is noticeable, but not really worth the extra cash, especially when 6x-drives like this one are already here. The NEC fits internally, so it's a case of fitting the SCSI ribbon and power cable and setting the ID number. Then make sure you have a CD mountfile with the correct SCSI device and ID number and bingo!, it's all working.

Rather surprisingly, this CD drive has a caddy, so you place the disc into that and then insert the caddy to the drive. The only reason for this regression from tray loaders that I can think of is for reasons of stability. Still, it makes no difference to the operation at the end of the day, so why complain?

In use, you find that large files copy faster and that multiple files copy about twice as fast as a single-speed, which is down to the time it takes the computer to initiate the copying for each file. There's no doubt that for many a 6x is a luxury when a dual will suffice, but if you are a constant user of CDs, then the speed difference is much more noticeable than with a quad-speed. The price difference is considerable, so

it's for individuals to decide whether their use merits the extra cash.

NEC 6Xi

Price:	£312.99
Supplier:	First Computer Centre
Contact:	0113 231 9444

Verdict: 85%

SyQuest

SyQuest drives used to be large pieces of hardware offering removable disks and tending to be out of the price range of home users. They found a niche with professional users who could use them to send large files to one another. Some of the adverts in this magazine were probably submitted on SyQuest cartridges. Nowadays, both the size and price have come down and may be attracting a wider audience.

SQ270

The drive I tested was an internal IDE drive, which meant using an IDE card for a box Amiga. I used the Tandem CD+IDE controller from Alfa Data. It should have been a case of plugging in the card and power and going, but I had to fiddle around a bit with the controller. After a great deal of cussing, the drive appeared fine, so I'll have to conclude it was my machine and not the drive (there's a heck of a lot of dust on the slots) that was at fault. Once working there were no problems at all and the drive appears on boot-up without any need to mount it. When you boot-up you get the usual clicking and whirring followed by an unusual and disturbing 'wheep' sound.

In terms of speed, it outperforms my internal hard drive and is as fast as some SCSI hard drives. Unlike SCSI devices, after booting-up you can't remove the cartridge and change to another – you have to re-boot with a different cartridge in the drive. It's worth getting around this by investigating the same drive with a SCSI interface, which may also work out cheaper. The eject mechanism seems a little primitive, but I can forgive that, since it wasn't a problem.

The price makes this drive desirable, but it might be worth holding off for the new EZ drive which, while it offers less storage per cartridge, could be more economical. For those who need more than 135Mb per disk, then it's a choice between this and the MO drive.

SQ270

Price:	£360 + VAT (270Mb cartridge £42)
Supplier:	SyQuest Technology
Contact:	0131 339 2022

Verdict: 85%

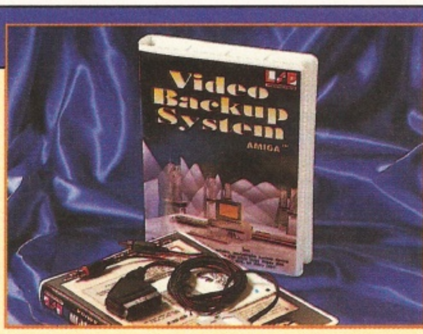
Magneto-optical

Magneto-optical (MO for short) disks are 3.5" disks that are only slightly thicker than a normal floppy, but store much more data. The disks look pretty similar to floppy disks, until you pull back the shield (which you shouldn't do!) and see what resembles a miniature CD. Unlike CDs though, these disks are re-writable.

Video Backup System

Unlike the other devices reviewed here, this is a back-up system. In other words, it doesn't mount a drive on WB, it simply allows you to back-up files or disks, and then restore them, should you need to, to a drive of your choice. As you've guessed, VBS uses video cassettes as a medium to back-up to. It's ingenious.

The idea is great, but dare you trust your video recorder with your precious data? After all, it can't even record The Bill correctly. In actual fact, it works fine. There are two versions for either SCART or Phono depending on your VCR. It's easy to connect. Then all you need is a spare tape and you can back-up files using the software provided, which is very intuitive and comprehensive, even providing a log file and thus letting you choose which files you want to restore. It's simple and ideal as a cheap back-up system, storing 100s of Mbs for the price of a four hour video cassette.



VBS 3.0

Price:	£54.95 (ph) £57.95 (sc)
Supplier:	Emerald Creative Tech
Contact:	0181 715 8866

Verdict: 90% Star buy



This magneto-optical is very good indeed and the internal version is even better value.

> "Dare you **trust** your video recorder with your precious data?"



An internal SyQuest IDE drive. It requires an IDE controller like the Tandem pictured here.

M2512A

This is an external SCSI drive that is relatively easy to set up. You need to attach it like any other SCSI drive and then perform a low-level format using HDToolbox – unlike the Fujitsu hard drive, this does support the SCSI Inquiry and so sets up most of the drive type automatically. Then you can mount the drive and format it to the Amiga and that's it.

It now just works like any SCSI-mounted drive on Workbench and each 230Mb disk has a formatted capacity of 217Mb. It's as fast as the SyQuest and so beats some hard drives, too. The good thing about removable media with SCSI interfaces is that you can eject the disk and insert another one and then execute the diskchange command – the new disk will appear on Workbench without having to re-boot. The disks also have a write-protect tab, like floppies, so you can prevent deletion. The drive itself is physically quite large, but that's due to the casing it is housed in.

With cartridge prices at £15, this unit sits nicely between the Zip drives and Panasonic's Dual, although the £400 price tag for the drive is now a little high. It does mean that after your initial outlay, you can add 1Gb for as little as £60 a throw. For those who can house SCSI drives internally, the £70 saving must make this drive even more attractive.

M2512A

Price:	£330 (int) +VAT (230MB disk £15)
	£399 (ext) +VAT (230MB disk £15)
Supplier:	Fujitsu
Contact:	0181 573 4444

Verdict: 87%

Others

There are two other types of drive of interest, the Pansonic Dual and the Iomega Zip. For a fuller review of both of these, check out last issue, AS54. Some of you might be wondering

SyQuest EZ135

SyQuest are launching a new drive, the EZ 135. It is aimed as a direct competitor to the Iomega Zip drive. It's available as both IDE and SCSI and stores 135Mb on 3.5" removable cartridges. At the time of writing the first shipments had arrived from America, and we hope to review it next issue. With the drive selling for as little as £149 and cartridges for £12.50, the competition for this level of storage is certainly hotting up.

why we haven't included any tape streamers here. This is because they are not wonderfully supported on the Amiga and the cost of a SCSI tape streamer is prohibitively high, especially since they cannot instantly be accessed on Workbench and are really only useful for back-up, for which there are much better systems.

Panasonic Dual

This drive is quite remarkable. It has only one tray, but you can load both CDs and 650Mb re-writable disks. Although a SCSI device, it requires a little technical knowledge to get running. This is because in effect there are two drives on one SCSI ID.

The re-writable side is easy enough to set up. It's exactly the same procedure as with the other drives, simply mount it and format it. The CD drive is slightly trickier. You need to set up a mountfile that uses the CD.device. This has a configuration file that allows you to enter the SCSI device and the ID number with the figure 1 before it, denoting lun 1. This now tells the Amiga to look at lun 1 on the same SCSI ID as the re-writable for the CD. It's a quad-speed drive, so is faster than the 'normal' drives.

This is ideal for people who are mastering CDs, because you can set it up on one disk. Most users, though, will see the price as a little over the odds. Although buying gigabytes of storage after the initial investment is quite cheap, less even than the SyQuest or Zip drives, you have to be using lots of gigabytes to see a saving. Medium-level users will probably opt for the mid-range drives and leave the Pansonic Dual drive in the high end niche, unless the price drops of course.

Panasonic Dual

Price: £599.95 (650Mb disk £49.95)
Supplier: Hi-Q
Contact: 01525 211327

Verdict: 80%

Iomega Zip 100

This is one of the fastest selling drives around and despite being a real newcomer to the Amiga market, it's going to be a hard one to beat. SyQuest's new drive might be able to offer slightly more for slightly less, but it will have a hard time competing with this Zip drive, which could conceivably become a de facto standard.

Essentially, it is an external SCSI removable hard drive (an internal version is rumoured). It comes with some software tools and a mountfile and offers 100Mb per cartridge. Its speed is, like all the other SCSI drives (and I'm sorry to keep repeating this), around 950,000 bytes per second – faster than some IDE hard drives and as fast as other SCSI ones. There is no ability to write-protect the disk physically, but it can be done through software. The only omission is a power switch (well, der!), but this drive is just fantastic for low-end users who can suddenly have 100Mb removable cartridges for an incredible price.

Some of the other drives are more suitable for mid-range work – after all, 100Mb starts to sound like a small amount nowadays for some people – but as a second drive, this is hard to beat for most people.



The PD drive is good, but very much high-end.



The sky is the limit for the new kid on the disk block, the Iomega Zip drive.

> "A1200 users have only **recently** been admitted to the SCSI club."

Iomega Zip 100

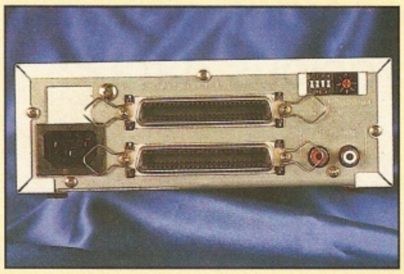
Price: £170 (100Mb disk £15)
Supplier: HiSoft
Contact: 01525 718181

Verdict: 93% Star buy

Conclusion

And those are the choices of drives available. What's the best? Well, a good, large hard drive and external floppy are the best starters. The removable media and second hard drives are difficult. The hard drives offer more capacity in one lump, but the removable devices can be used to store more in the long term, by simply buying another cartridge. To choose from amongst them is very hard. They are all relatively easy to set up and perform similarly. In other words, they are all bloody good. Me? Well, I've got the SyQuest attached to one machine and the MO to another. I had to send the Zip and Panasonic Dual drives back, but would have gladly kept them. If only SyQuest and Fujitsu were to forget I had theirs. Not likely, I'm afraid. I'll be back to a single hard drive by next month. Oh well, nice while it lasted... ■

Back to the future



The back of most SCSI drives look like this. There are two 50-pin connectors for the SCSI cable, so you can put a cable through to another drive. If you don't do this, you need a terminator pack on one of the connectors. Some drives have DIP switches to enable automatic termination, avoiding the need for the pack. The DIP switches also allow you to adjust the SCSI ID number, because each SCSI device must have a separate ID or it will conflict. For CD-ROM drives there's two audio jacks to allow you to link the audio to a monitor, stereo or speakers. Oh, and there's also the power supply as well, of course.

SCSI connectors

A1200 users have only recently been admitted to the SCSI club. There are now several choices of SCSI connectors to use. One of the easiest to set up is the Squirrel, which slots into the PCMCIA slot and has some software to be installed on your internal hard disk. The DataFlyer is another choice which fits internally and so doesn't take up any expansion port – see the review this issue, page 39. There are also several accelerator boards that also offer SCSI connection. One such is the Apollo 1230, which also supports auto-booting, meaning you don't need an internal drive and can use a SCSI drive as your first drive. To find out how it performs, see the review on page 40 of this issue.



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Performance Comparisons :-

Transactions per second

	Alpine 275	Cobra 275	ALR 90
CPU	Alpha AXP	Alpha AXP	Pentium
MHz	275	275	90
Integer	21.6	21.2	8.7
FPoint	42.8	36.1	6.4

Typical Lightwave Frame

Amiga 4000/040, 25MHz, 18Mb	2h 10m 30s
Amiga 3000, 40MHz 040, 34Mb	43m 19s
Alpine 275MHz ALPHA, 64Mb	6m 35s

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Picture perfect!

Thinking of a new outlook for your Amiga? **John Kennedy** *has been monitoring the situation with increasing frequency.*

The Amiga was always designed to be a home computer, something which it is still supremely good at. What other computer can you buy which will connect directly to the family television and play games right out of the box, without two hours experimentation with AUTOEXEC.BAT and buying extra sound cards? The answer, of course, is that there isn't one – the Amiga stands alone.

The Amiga is also capable of being expanded to dizzy heights, with Pentium-power 060 processors, gigabytes of hard drive space and megabytes of memory, all with an Operating System which can still show Windows95 owners what multitasking is really about.

Almost every Amiga owner wants a monitor. They provide a much better picture than a standard television, and they're a statement that the Amiga is a real computer, capable of doing real work. Trying to use Workbench or a word processor on a TV can be frustrating, because the picture isn't sharp enough to be useful.

It is because of the Amiga's homely nature that buying a dedicated monitor can be a tricky business. The Amiga was designed around the domestic television, explaining why genlocks and video games look so good. The downside to these video-friendly abilities is that, unlike the PC, you cannot expect any old computer monitor to work with the Amiga.

Jargon busting

Refresh rate: A measure of the rate at which a monitor can update the display. The higher the refresh rate, the easier the display is to watch.
Chunky pixels: A chunky display stores the colour for each pixel in one memory byte, instead of spread over several bitplanes. The Amiga uses the bitplane method by default, because it is very suitable for scrolling video games. PCs and Macs use chunky pixels, making games like Doom and Marathon faster.
Horizontal frequency: The rate at which one horizontal line can be drawn on a screen.
Vertical frequency: A measure of the rate at which one entire screen display can be drawn on a monitor screen.
Multiscan: A monitor which can tune itself to various horizontal and vertical frequencies is referred to as 'multiscanning'.
FlickerFree: A special Amiga screen mode, made possible by the AGA chipset, which can display a normally interlaced screen without flicker. A monitor capable of displaying images at roughly 30kHz is required – a TV operates at 15kHz.

Very high frequency

It's all down to frequencies. Domestic televisions operate so that it is only possible to have a steady Amiga screen display of about 640 pixels across by 256 lines down. This is due to three things: the display's horizontal and vertical frequencies, and the bandwidth of the video signal. The frequencies are simply a measurement of the rate at which the screen can show incoming video, whereas the

bandwidth is how much information the display will contain.

More bandwidth means sharper detail. Although the default Amiga screen display is 256 lines high, you can emulate the way TV images work and double the number of lines to 512, by using an 'interlace' mode.

Interlace displays two frames of 256 lines, intermixed to produce twice as many lines at once. If you try it, the screen flickers like crazy. The Amiga screen usually contains many horizontal lines and sharp contrasts, which show off the interlace effect at its worst. Try displaying a digitised image in interlaced mode, and the flicker is hardly noticeable.

Even if you use an Amiga monitor such as the old faithful Commodore 1084/Philips CM8833 the results are the same, because this monitor also operates at the same rate as video (15.6kHz). In fact, you can feed the output from a video recorder into this monitor and watch TV on that if you want. These days, even a 640x256 display is really too small for serious use, so there needs to be a way of providing a larger display which doesn't flicker. The Amiga A3000 solved this problem, as did some third party video cards, by building a 'hardware flicker fixer' into the display hardware. This took the Amiga screenmode and squirted it out of the back at a frequency (about 31.5kHz) suitable for direct connection to a PC-style VGA monitor.

The AGA screenmodes

The new AGA chipset, which is fitted as standard in the A1200, CD32 and A4000, uses an ingenious 'scan doubling' trick to achieve the same result as the A3000 hardware flicker fixer, but for a lot less dosh. AGA Amigas output signals greater than 15kHz by using features in the new graphics chipset. See the 'New AGA modes' boxout for the useful modes.

For technical reasons, it's impossible to output the screenmodes at exactly the same frequency as S-VGA PC monitors expect. PC monitors prefer a 31.5kHz signal, but the AGA screenmodes operate from 27.5kHz to 31.4kHz.

For here on in it can get confusing. Many PC monitors are 'multiscanning', accepting a range of frequencies, including the AGA screenmodes, without a problem. These will happily work with all the flicker free modes, and



The Samsung 17GLsi, a stunning monitor.

> "It's because of the Amiga's **homely** nature that buying a monitor is a tricky business."

How a monitor works

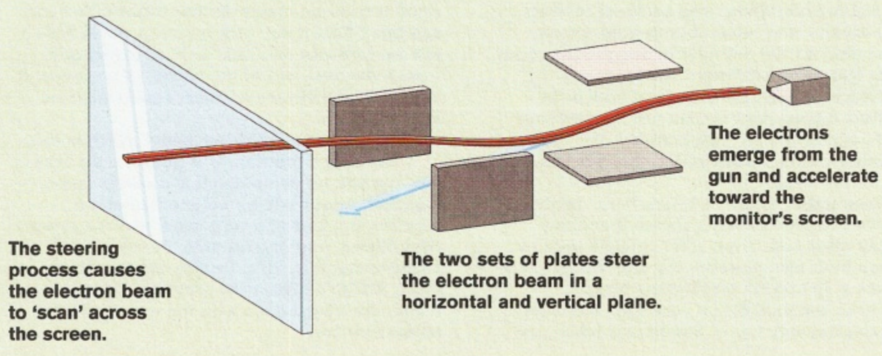
The inside of the monitor tube is coated with a special material which emits light when struck by a beam of electrons. At the back of the tube, a heater causes electrons to 'boil' off an electrode. They are then accelerated towards the screen through another electrode with a different charge.

The beam is 'steered' using other plates, controlled by the monitors electronics, and governed by the incoming video signal.

To construct the display, the electron beam starts at the top left of the display, and scans right across one horizontal line. It then flips back to start the next line, one pixel down. The rate at which the beam displays one line is the 'horizontal frequency'.

The beam moves from the top of the display to the bottom, scanning from left to right as it goes. The rate at which it scans one entire screen is the 'vertical frequency'.

The vertical frequency also gives an indication of the 'refresh rate'. The higher this is, the more solid the display looks and the less tiring it is to watch.





The 17-inch screen size of the Taxan 880lr really makes a difference.

"Many displays leave an annoying border at the sides."

are a cheap way of getting a sharp and flicker-free display. Some monitors, sadly not many, also accept frequencies as low as 15kHz meaning they also display the 'old' Amiga screenmodes. This means you can also play games, because they are set to use 15kHz modes so they can be used on televisions. Some PC monitors operate at several fixed frequencies, some of which may coincide with Amiga screenmodes. On the other hand, some PC monitors are very strict and will only work with 31.5kHz displays and nothing else.

These monitors are useless for AGA users. As specifications vary widely, it is hard to know in advance if a specific PC monitor will work with the Amiga, which is why we got hold of as many new models as we could for review. The official Commodore monitors (the 1960 and family) supported all Amiga modes, but are no longer available. The MicroVitec range for the Amiga are among the few available monitors which display both old and new screenmodes.

Problems

Although the AGA chipset is to be applauded for generating flicker-free on some PC monitors, there are still some problems.

As we have seen, the slightly lower-than-standard frequency means that some PC monitors will not operate. To try and improve matters, the Workbench disks come with a special 'VGAOnly' monitor driver. This utility attempts to increase the frequency slightly, at the cost of some smooth horizontal scrolling. To try it, copy the VGAOnly driver into your Workbench Monitor Drivers folder, delete the file ENVARC:sys/overscan.prefs and re-boot.

Many displays which do operate with the Amiga leave an annoying border at the sides, often as much as an inch wide. Unfortunately, little can be done because it's a consequence

Top tips for using a monitor

1 It is very important that you choose the best possible location for your monitor. Not only must it be comfortable for you to watch, but the other light sources in the room should not interfere with your viewing.

2 Check your eyesight. Pay a visit to your optician. Tell him if you are using a monitor a lot. If you wear glasses consider paying extra for an anti-reflective coating on the lenses.

3 Don't place the monitor backing on to a window – the contrast with the light behind can make it very hard to read the display. Try to arrange it so that no other room lights are reflected in the display.

4 Keep the screen clean. If there are marks or smears on the monitor glass, your eyes will try to focus on the surface of the glass, not the image projected just behind it. This can cause eye fatigue.

5 Don't touch the glass. Not only will you leave a fingerprint, but if you then touch your face you can carry dust attracted to the static charges built up on the display. This is rumoured to cause skin problems like acne.

6 If there are fluorescent lights in the room, they may cause the screen to flicker more. Try replacing them with normal bulbs, or select a different screen mode.

7 Set the brightness and contrast controls properly, and remember to adjust them depending on the ambient lighting in the room – you will need a different setting in the evening from daytime use. Start with both controls turned right down until the screen is black, and gradually turn them up. The ideal is a situation where blacks look black, not brown, and text is crisp.

8 Remember to take a break from staring at the screen. Research shows that many people blink less often when using a monitor, and so their eyes become dry and irritated. Try to take a 10-minute break every hour.

9 Place the monitor so your eyes are level with the very top of the display when you are sitting comfortably and looking directly ahead. You should also be able to rest your hands on the Amiga keyboard without having to stretch.

10 Pick the highest refresh rate you are comfortable with. If the refresh rate isn't right, the image may shimmer slightly. You can see this effect if you pick a screen mode with a low refresh rate and then look at the screen from a distance out of the corner of your eye. A screen which flickers a lot causes headaches and eyestrain.

11 If you supply a video signal which is too fast for a monitor, it is possible that the monitor will be damaged. It is unlikely that a standard Amiga will be able to damage a monitor, but to make sure never use the special AGA 'flicker free' modes with a television or 15.6kHz monitor. Also, be very careful when using Amiga's fitted with graphics cards to match the frequencies with the specifications of the monitor.

of the Amiga's output. Stretching the display to fill the entire screen could push the monitor to work beyond it's normal parameters.

Using a Public Domain program such as MonEd improves matters, by fine-tuning the monitor drivers to suit your display. Not a task for the faint-hearted, this often makes very little difference. There's also the risk of wrecking the monitor by driving it too hard.

The other main problem is caused by programs which don't know about the new screenmodes. Many modern programs allow you to pick a screenmode to use, but some don't and will blindly try to open a default PAL screen. If you are using a monitor which will only display a DblPAL or better mode, the incompatible program will cause your display to vanish or roll horribly.

This is where 'Mode promotion' comes into play. There is an option hidden in the IControl Preferences program to switch on this feature. Well-behaved programs requesting PAL screens will automatically be given DblPAL screens. Sometimes the programs are terribly well-behaved, and a Shareware or Public Domain program like ForceMonitor or NewMode will have to be used instead.

Deal the cards

The best solution to picking a monitor is to first buy a video board for the Amiga. If you have Zorro slots (that is, either you have a Big Box Amiga or have fitted your A1200 into a tower case) you can fit cards such as a Picasso II, Picollo SD64 or Cybervision, and relax. These graphics cards all use video chips originally designed for use in PC video cards, meaning they can pipe out the necessary frequencies with no problems at all.

These cards replace the standard Amiga display, trading the option for playing games and performing stunning copper tricks for a faster, 'chunky' display. The cards actually remove the strain from the Amiga's display hardware, freeing the need for storing graphics in Chip RAM, and operates at resolutions of 640x480, 800x600, 1,024x768 or even higher. There are no black borders, and they display 256-colour Workbench programs very quickly indeed. The video cards also support True Colour modes (32 or 64 thousand colours, or 16.8 million colours). Most also allow the normal Amiga display to be used or 'passed through', so you can still watch games or use awkward programs which won't operate on the graphic card display.

An alternative to a video card is a 'flicker fixer' which processes the video signals in much the same way as the A3000, and outputs all Amiga modes at 31.5kHz.

The **reviews**

ViewSonic 14ES

The only 14-inch true S-VGA monitor on test, the ViewSonic gave a very bright, sharp picture. It demonstrates perfectly the difficulty in getting a monitor that works with the Amiga, because it displays the Multiscan Productivity mode beautifully with only a little border, but rather sadly lost sync in DblPAL mode.

Notes

15kHz mode: normal video 'games and Guru' mode.
DBL mode: the AGA DblPAL screenmode.
Productivity mode: the AGA Multiscan.
Productivity mode: the most useful.

Graphics card: here, taken to mean high-quality modes of 800x600 or 1,024x767.

Note: typically a 14-inch monitor can display up to 640x480 pixels, a 15-inch can display 800x600 and a 17-inch can display 1,024x768. You can push the display (i.e. use a 1,024x768 on a 15-inch monitor) but the image quality suffers. However, many users find it acceptable.

ViewSonic 14ES

Price: £179
Supplier: ViewSonic
Contact: 01734 750531
Verdict: 85%

Philips CM8833/ Commodore 1084

The Philips/Commodore range were the definitive monitors for the Amiga for a long time – and are still very popular with A1200 owners. They work at video frequencies and are perfect for games and some Workbench experiments,

> "Many modern programs allow you to pick a **screenmode** to use, but some don't."



The Taxan 580Plus LR – just what the upgrading Amiga owner is looking for.



The ViewSonic 14ES was the only 14-inch true S-VGA monitor on test.

although the 640x256 non-interlaced display seems tiny compared to the new AGA modes.

Some versions have stereo speakers built-in, making them ideal for games and for connecting to the video recorder to watch some telly. Not available under the Amitek name, you can never have enough of these monitors spare – they are so useful for video work it's worth getting one on the off-chance you'll need it.

Commodore 1084

Price:	£195.99
Supplier:	First Computer Centre
Contact:	0113 231 9444

Verdict: 75%

MicroVitec 1438

At the moment, the MicroVitec is the Amiga owner's only chance to own a display which is a jack of all trades that can handle everything an AGA chipset can throw at it. Not only does this monitor handle the DblPAL and Multiscan Productivity, but if you need a quick blast at Skidmarks or want to read the Guru message there will be a loud click and the old-fashioned modes will pop up.

The clicking noise is rather irritating, but there was even worse on the model tested – the screen had a nasty habit of suddenly switching into a strange darker-than-usual mode when displaying DblPAL images. The dead pixel on the display, and the provision of only basic image manipulation controls didn't say 'quality', either.

Unless you are lucky and find a PC multiscanning monitor which can reach 15kHz, this remains your only choice. It also seems strange that a monitor designed for the Amiga has no speakers built in.

MicroVitec 1438

Price:	£274.99
Supplier:	First Computer Centre
Contact:	0113 231 9444
E-mail	sales@firstcom.demon.co.uk

Verdict: 80%

ViewSonic 15G

The move from 14 to 15 inches is quite a small one, but you enter a whole new ball game in terms of features, build quality, and price.

This ViewSonic display could just about cope with a 1,024x768 screen generated on a Picasso card, and with suitable fonts you could probably get used to it – although 800x600 was more pleasant. In fact, this was a fine monitor, with slightly fiddly digital controls and their blister buttons (hold down the required mode and then '+' or '-') being one of the only things to fault. An AGA Amiga could use this monitor

"The move from 14 to 15 inches is quite a **small** one, but you enter a whole new ball game."

Top tips when buying a monitor

1 If buying a monitor which is not being sold specifically for the Amiga, you must try it in advance. It is almost impossible to say if a given monitor (and specifically a 14-inch S-VGA PC monitor) will work with the Amiga. We have tested several (see the reviews for details) but if you are offered a second-hand monitor try it first.

2 Remember, some PC-style monitors only display certain modes, so check as many as you can before handing over any cash. Some monitors display Multiscan Productivity, but not DblPAL.

3 Many modern 15-inch and bigger monitors seem to work very well with the AGA modes, as they are usually flexible enough to accept a wide range of frequencies.

4 The composite style of video signal contains a mix of the colour and luminous information and a slightly blurry picture, but it is still better than RF.

5 A television with a SCART socket provides the best possible image quality, short of buying a dedicated monitor, especially if the SCART sockets allow the red, green and blue colour signals to be sent separately. A modern SCART-equipped TV gives a picture which is probably as sharp as a standard 15.6kHz monitor. Remember no televisions support the AGA flicker free modes.

6 The next best option is to use an S-VHS signal. This keeps the combined colour (chrominance) and brightness (luminance) signals separate, but requires a special television. The only Amiga with an S-VHS output is the CD^{32}, although some genlocks have this option.

7 Although the price of PC monitors is appealing, if the monitor you buy cannot sync down to a horizontal frequency of 15kHz, you will not be able to play games. You might find that two monitors: one for games and one for serious work is the only solution.

8 RF video works because of a device called a modulator. The modulator is actually a low-powered transmitter, which takes the video signal and the audio outputs and creates a TV-compatible broadcast. This is connected via a shielded cable to the aerial socket of the TV, which needs to be tuned specially.

9 If at first the monitor refuses to work, try installing the VGAOnly driver.

New AGA modes

Name: DblPAL High Res No Flicker
Resolution: 640x512 with no flicker
Refresh rate: 50Hz
Comments: Good general mode, with large display but slow refresh rate can cause shimmering effect. Not all PC monitors display this mode.

Name: Euro 72 Productivity
Resolution: 640x400, with no flicker
Refresh rate: 70Hz
Comments: Fast refresh rate makes this mode easy on the eye, but small display means it may be too small. Most PC monitors display this mode.

Name: Multiscan Productivity
Resolution: 640x480, with no flicker
Refresh Rate: 60Hz
Comments: A good compromise between screen size and comfortable refresh rate. Most PC monitors display this mode.

without extra hardware, but there will be a slight border at the sides of the display.

ViewSonic 15G

Price: £319
Supplier: ViewSonic
Contact: 01734 750531
Verdict: 89%

Taxan 580Plus LR

Taxan monitors may not look quite as slick and flash as the competition, but this model could be just what the upgrading Amiga owner is waiting for.

Again, the front panel controls were slightly annoying – a single selection button chooses the mode, then up and down keys set the level – all the button pressing makes it awkward to centre the display. Thankfully it's not something you will have to do more than once or twice.

The good news is that when using multiscan or DblPAL modes the screen re-sized very well indeed, with next-to-no noticeable black border.

The retail price might seem a little steep but you'll save money on the street price, making this a serious contender.

Taxan 580Plus LR

Price: £389 RRP (£285 st)
Supplier: Taxan
Contact: 01344 867646
Verdict: 92% Star buy

Taxan 880lr

This is the 580's big brother. It's amazing how much larger the 17-inch version seems when you try it. OK, so the blister-style digital controls at the front look a bit tacky, but this time there are enough to make adjustments easy-peasy without having to first pick and choose all the different modes.

You might be crazy to try it, but you won't need a graphics card, as all AGA modes look terrific. Of course, if you do have a Picasso II or similar, you'll be straight into 1,024x768 territory and loving every minute of it with the clear, bright display.

Again, it pays to shop around because you will be able to find quite a bargain.

Taxan 880lr

Price: £699 RRP (£515 st)
Supplier: Taxan
Contact: 01344 867646
Verdict: 92% Star buy

ViewSonic 17PS

Ooooh... so sharp. This monitor has the clearest picture of any on test and, frankly, looks superb. It works with DblPAL modes perfectly, with a slight border. Using a graphics card really does the display justice, and the 1,024x768 modes are swallowed up whole.

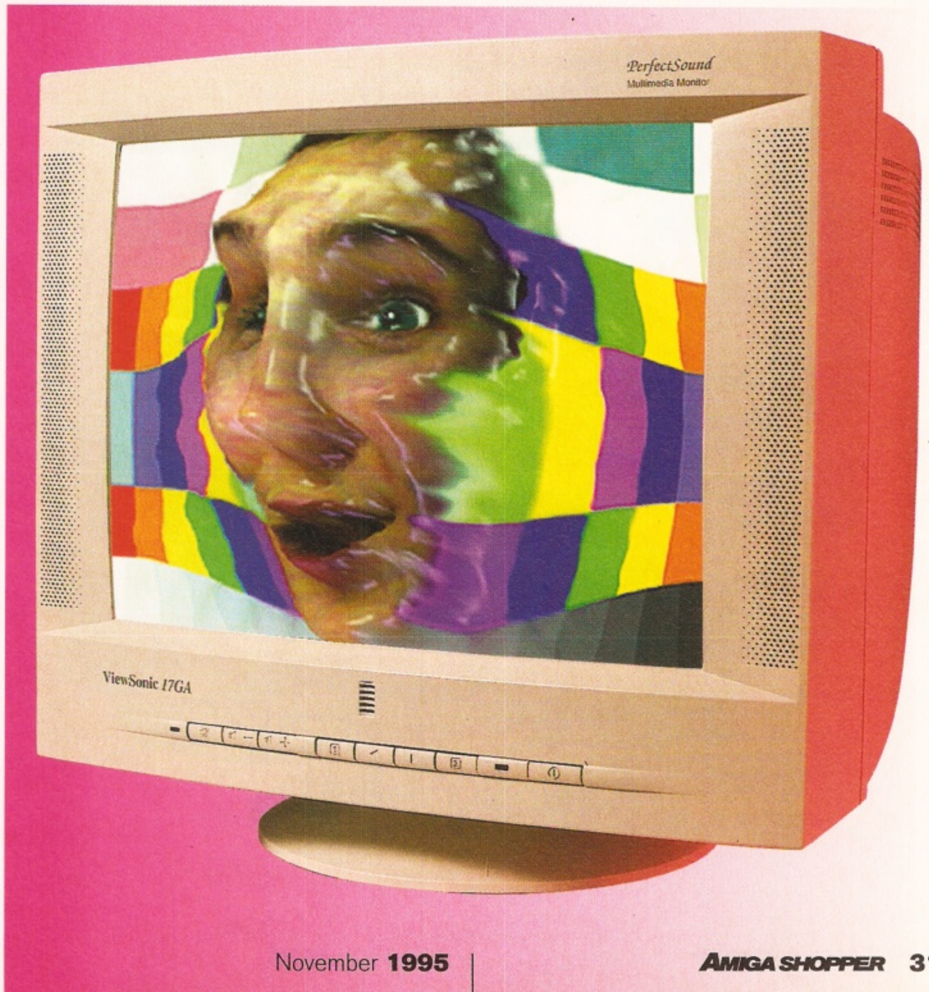
All the controls are selected from an on-screen menu, including a special anti-moire fringe system which vibrates the screens either vertically or horizontally to slightly blur the images and reduce any interference.

The entire ViewSonic range has a very high build-quality, and the price compares very favourably with the other 17-inch monitors on test. If you have the money to invest, try and see one in operation and you'll be convinced.

ViewSonic 17PS

Price: £670
Supplier: ViewSonic
Contact: 01734 750531
Verdict: 90% Star buy

> "If you do have a Picasso II or similar, you'll be straight into **1,024x768** territory and loving every minute of it."



The ViewSonic 17GA combines an excellent display with on-screen digital controls.

"Complete monitor overboggle! The Samsung looks stunning."

New from Amiga Technologies

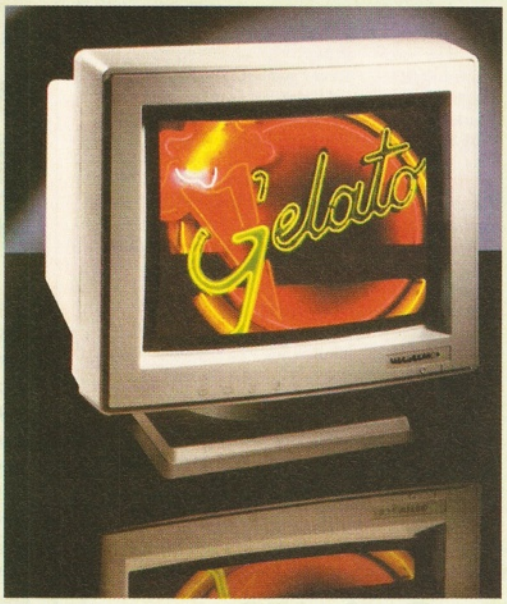
As the Amiga slowly continues its revival into the computing world, Amiga Technologies have announced a new monitor. The catchily-titled Amiga M1438S is a 14-inch colour stereo monitor compatible with both the Amiga 1200 and the new 4000T computers.

With a maximum resolution of 1,024x768 and horizontal frequencies ranging from 15 to 40kHz, this monitor looks set to fulfil any users needs, be they for games or serious applications.

According to the publicity blurb that came with the monitor (pictured right), the M1438S boasts many ergonomic characteristics, including low power consumption, an anti-glare screen and a high repetition frequency to reduce eye strain.

Amiga Technologies plan to release 15 and 17-inch versions of this monitor in the new year.

However, if you take a close look at the picture, it is not all it appears to be. Although the monitor's brand name has been scribbled out with a black pen, the reflection in the glossy table reveals this to be a MicroVitec monitor. Oh well!



ViewSonic 17GA

Of all the ones tested, this was the hardest monitor to send back. It combines an excellent display with on-screen digital controls and a great pair of stereo speakers, hidden in the front of the case. There is even a microphone included for the day when we all start getting voice mail systems.

The addition of the speakers gave the monitor a big, fat, friendly appearance and the sensible .28 dot pitch means the price is very tasty indeed. There was some trouble with DblPAL mode, but multisync was fine and a graphics card delightful.

ViewSonic 17GA

Price:	£619
Supplier:	ViewSonic
Contact:	01734 750531

Verdict: 91% Star buy



The ViewSonic 17PS had the clearest picture of any of the tested monitors.

Samsung 17GLsi

Complete monitor overboggle! The Samsung looks stunning, with the fantastic futuristic casing – even the stand is far-out. The control panel actually descends to reveal a four-way cursor pad, making centring the display easier than playing Pacman.

The user-friendly theme is carried throughout, with an error message of 'Check Cabling' appearing if you accidentally disconnect the video signal.

Oh, and yes there was a great picture, and DblPAL and multiscan modes were supported – but really this would be a terrible waste.

Samsung 17GLsi

Price:	£699
Supplier:	Samsung
Contact:	0181 391 0168

Verdict: 90% Star buy

Conclusion

The AGA chipset is a compromise between performance and price, and unfortunately the slightly non-standard video rates can make choosing or upgrading a monitor for the Amiga a confusing business.

Improving your display

Here are the options for improving your display, depending on the Amiga model you are using.

A500/A600
- **Use a SCART television or a 15.6kHz monitor such as the Amitek 1084 (£195.99 from First Computer Centre).**

A1200
- **As A500/600.**
- **Use a dual-scan monitor such as the MicroVitec to make use of the new AGA flicker-free mode.**
- **Use AGA modes only, and use a compatible PC-style monitor.**

A2000
- **Same as A500/600.**
- **Fit a video card and use a PC monitor.**
- **Fit a flicker fixer and use a PC monitor.**

A4000
- **As A500/A600.**
- **As A1200.**
- **As A2000.**

If you intend to use a PC-style monitor with your Amiga you need an adapter to link the S-VGA-style lead to the 23-way centronics video connector. A suitable adapter was supplied with the A4000, but A1200 owners will need to contact their dealer or order a suitable cable from Power Computing or BlitterSoft.



The ViewSonic 15G – the extra inch above the standard 14 makes all the difference.

If you do want to make the most of the flicker-free modes but don't want to sacrifice the normal 'game' display you have no choice – you'll need a monitor from the MicroVitec range. Escom/Amiga Technologies will allegedly be badging these monitors, because they are currently the cheapest option.

However, if you are willing to experiment you will find that there are a lot of bargains to be had. You may need to sacrifice the non-scan doubled modes (so no games – but hey, this is Amiga Shopper after all) but in return you'll get a larger and better quality display. If you are interested in this route, try to make 15 inches your minimum size.

If you are lucky enough to have a graphics card, or are thinking of getting one, you should strongly consider a 17-inch display to make the most of those workstation-style resolutions.

And for the financially challenged? If you are broke but desperately need to improve the quality of your display, keep watching the 'For Sale' columns in your local paper. Many people practically give away old colour and monochrome VGA displays, so if you're lucky you'll find one which is fine. Happy syncing! ■

> "Many people practically **give away** old VGA displays."

Comparison chart

Name	Size	Dot pitch	Horizontal freq. (kHz)	Vertical freq. (Hz)	Controls on-screen	Digital controls	Work with 15kHz modes	Work with DBL modes	Work with Multiscan	Work with video card	Speakers	Microphone
ViewSonic 14ES	14"	0.28	30-48	50-90	no	no	no	no	yes	yes	no	no
Philips CM8833/ Commodore 1084	14"	0.28	15	50	no	no	yes	no	no	no	yes	no
MicroVitec 1438	14"	0.28	15.6 30-48	n/a	no	no	yes	yes	yes	yes	no	no
ViewSonic 15G	15"	0.28	30-64	up to 76	no	yes	no	yes	yes	yes	no	no
Taxan 580PLus LR	15"	0.28	30-65	50-100	no	yes	no	yes	yes	yes	no	no
Taxan 880lr	17"	0.28	30-64	50-100	yes	no	no	yes	yes	yes	no	no
ViewSonic 17PS	17"	0.25	30-82	up to 77	yes	yes	no	yes	yes	yes	no	no
ViewSonic 17GA	15"	0.28	30-69	up to 86	yes	yes	no	no	yes	yes	yes	yes
Samsung 17GLsi	17"	??	15-50	45-100	yes	yes	no	yes	yes	yes	no	no

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From M62East Join M1 From the M1 follow signs onto M621. Take A643 Elland Rd turnoff from M621. Follow signs for A58. This merges with the Armley gyratory. From M62West Junction 27, A62 to Armley gyratory. From the A1 take the turnoff for A64. This merges with the A58 (by-passing town centre) which meets Armley gyratory.

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Info NEXUS 2

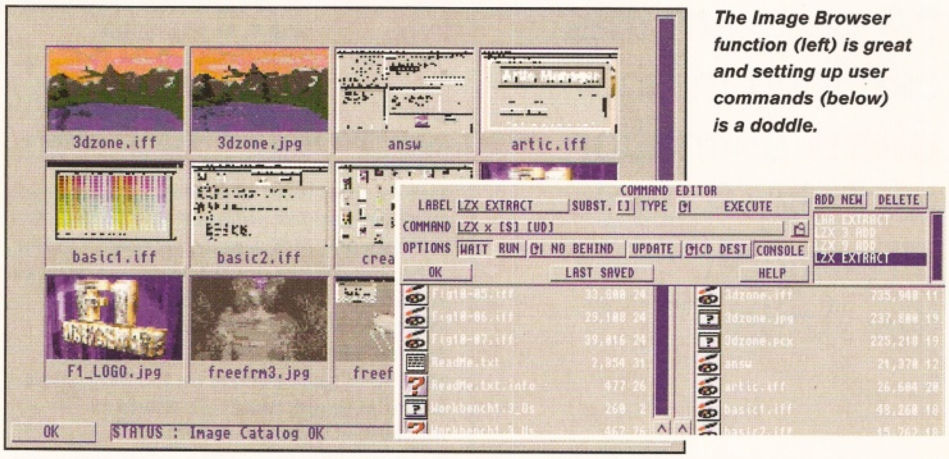
*Could **David Taylor**, confirmed Directory Opus user that he is, have been converted? The crowds gasp in disbelief. Is this set to be the king of all file managers? There's only one way to find out...*

File managers, don't you love 'em? Without them you'd be spending hours messing around on Workbench, no disrespect intended. Plenty of them have come and gone, but Directory Opus has remained. Version 5 was awaited with something akin to awe, but I wasn't too keen. I've therefore stuck to using DOpus4, but I think InfoNEXUS 2 might have won me over.

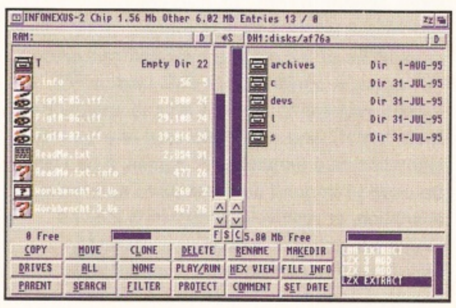
The first version of InfoNEXUS was pretty unresponsive. You'd wait ages for the menus to appear and it just got on your nerves. You were 20 operations ahead of the computer and continuously waiting for it to catch up. This and other bugs have been cleaned up, turning what was a sometimes unusable program into a very competent piece of software.

Because it comes from Optonica, there is a real emphasis on multimedia. You can play CDXL files directly from the program – I admit that most people don't often need to, but it's still impressive – and its picture handling abilities are second to none. What most people do have a use for is the ability to show just about any image and InfoNEXUS can handle lots of different types, as well as images supported by datatypes. The best bit is that it automatically converts 24-bit IFFs and displays them, saving you all the hassle of loading an image convertor before you can look at something. Things get better too, because it can also create an image index for a directory, displaying a small representation of each picture in the directory. To look closer, click on the image in the index and the full picture will be displayed.

Working in the program is pretty much as you'd expect. Double-click on a file and the default action is performed. InfoNEXUS shows a text file, or lists an archive. Defining the user commands, stored in their own window in the bottom right of the screen, is really easy – a bit of a novelty for programs like this. Setting it up to use with the likes of LZX is simple, because half the work is normally done for you. I also like touches like verifying files as they are copied. I didn't manage to stop InfoNEXUS creating trashcans when it formatted a disk, but I did like the fact that you could install it at the same time.



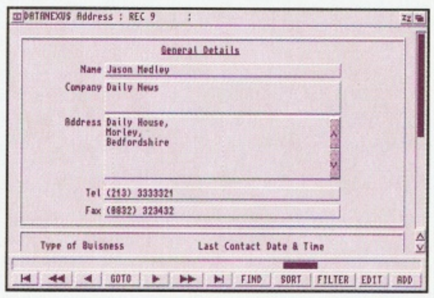
The Image Browser function (left) is great and setting up user commands (below) is a doddle.



The addition of the file type detection displayed with icons adds to the standard file manager look.

DataNEXUS – FREE!

By itself, InfoNEXUS 2 is still a cheap file manager. But, rather incredibly, Optonica have decided to include another of their programs, DataNEXUS, for free. DataNEXUS previously retailed for £30. It is an ideal accompaniment to InfoNEXUS, because it is really a multimedia database. It might not be the most powerful database ever, but it is easy to use, and can be configured. You can set up as many fields as you want and design your database. It's also very easy to enter external fields so that you can catalogue sounds or images and then click on them to hear or view them. It's a handy program to get for nothing.



A few niggles

OK, so there are a few minor points: if you change a drive when a file is selected, that file appears in the new window until InfoNEXUS corrects itself and updates. On the whole though, InfoNEXUS 2 might not have all the power of Directory Opus 5, but few people need that. I certainly don't. I prefer easier navigation, yet the ability to do everything I need with ease and speed. InfoNEXUS 2 certainly provides that. There's archive handling, media handling, simple document editing – it's great.

Now this may sound too good to be true, but after speaking to Optonica, Amiga Shopper readers can get £5 off the retail price of the package for a limited time only. Until the end of November, you can get it all for only £24.99, if you remember to mention AS when you order.

InfoNEXUS 2

Price: £29.99
Supplier: Optonica
Contact: 01455 558282

Verdict: 93% Star buy

Altered. images

MainActor Professional is the latest upgrade to a Shareware package which enables alien graphics and animation files to be read by an Amiga. **Gary Whiteley** *takes some pictures and gets converting.*

"A program that can load in an **alien** animation and play it back directly on the Amiga."

Not all computers are created equal, as any Amiga enthusiast will tell you, whether rightly or not. But this inequality has a tendency to work both ways. For instance, we all know that DPaint on the Amiga makes short work of preparing and playing back animations, while DPaint on the PC remains just that, a paint program. On the other hand there are PC programs such as AutoDesk Animator, Animator Pro and 3DStudio which can paint or generate frames, turn them into animations, and play them back directly on the PC screen. So far so good, but that's where the similarities start to drift apart.

We're talking about formats and standards again. Where Amigas use mainly native IFF-standard image and animation formats for storage and playback, PCs (and Macs) have their own standards. Common graphics formats on PCs are BMP, GIF, PCX, TIFF, Targa and PICT for still images and AVI, FLC or FLI for animation. Macs have Quicktime for animation, most of the standard PC formats for graphics and a few of their own design. Of course there is some common ground, for example JPEG, and there are several programs on each platform which can easily read, convert and write from one format to another. On the Amiga these include ADPro and ImageFX, and Photoshop on the Mac and PC, amongst others.

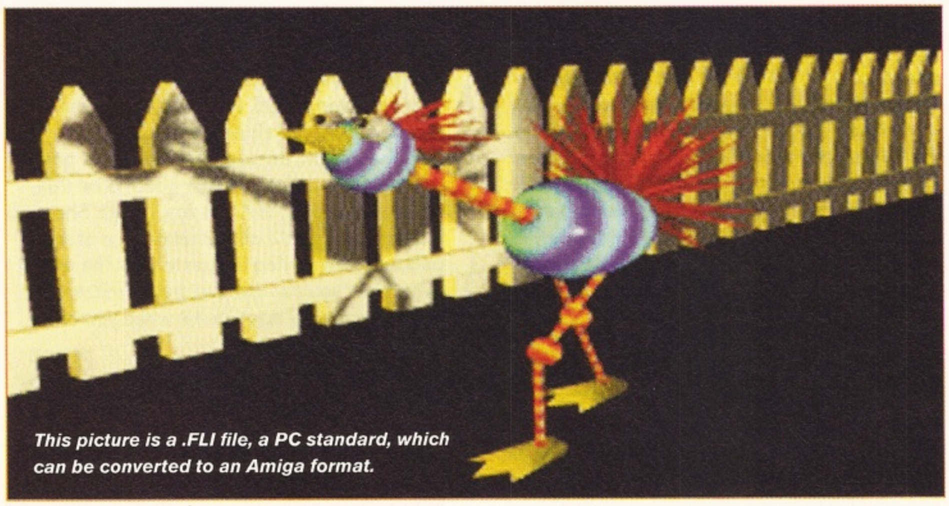
But what if you want to show a PC format, FLC animation on your Amiga, or you need to transfer a series of Amiga-generated frames as an animation to a PC? You could perhaps use ADPro or ImageFX2 to batch process each frame of the FLC animation to Amiga files, and then recompile them as an Amiga animation, but it's rather more difficult to make PC animation files on the Amiga. What's needed is a program which can simply load in an alien animation and play it back directly on the Amiga, or convert it, either to an Amiga-specific animation or to a sequence of frames.

Enter MainActor Professional, VillageTronic's modular animation package. MainActor Pro is a commercial release of a Shareware program (last version MainActor 1.52, I think) which takes the animation conversion process a step or two further than previous versions.

Down to business

MainActor Pro works with a range of Amigas, including AGA machines, as well as providing support for many of the available graphics cards – OpalVision and Harlequin being notable exceptions, however. Feed it a suitable animation and it will try to play it back on your machine (memory and display willing), or let you save it in one of several Amiga or non-Amiga formats. MainActor Pro can also load and convert a limited range of graphics formats, including BMP and GIF (see boxout for a complete list), though strangely enough it doesn't support JPEG, most puzzling since JPEG is a format common to most computers.

If this was all MainActor Pro does, it would still be a useful tool for cross-platform animation and limited graphics conversions, but there's more. MainActor Pro can also compile animations from a series of frames, though they must all be of the same format and resolution (for example conversion to FLC files (a PC format) requires that all the source images be in 8-bit format), and it will also save any loaded animation as a sequence of frames. It can also be used to append new frames to an existing animation, or remove frames which may no longer be required. To add to its flexibility, MainActor Pro can be used to add Amiga sampled sounds during playback, though these won't transfer over to other platforms as part of a saved animation.



This picture is a .FLI file, a PC standard, which can be converted to an Amiga format.

Which graphics card?

MainActor Professional has Universal Loaders for most graphics cards, including EGS, Merlin, Picasso II and Retina boards. This table describes the graphics format; the maximum bit-depth, and hence the maximum number of colours, that MainActor can cope with; and whether the program can load or save those images.

Animation type	Max bit-depth	Can you load?	Can you save?
AVI	8-bit	Yes	No
DL	8-bit	Yes	No
EGS	8/24-bit	Yes	Yes
FLI	8-bit	Yes	Yes
FLC	8-bit	Yes	Yes
IFF Anim3	8-bit	Yes	No
IFF Anim5	8-bit	Yes	Yes
IFF Anim7_16	8-bit	Yes	Yes
IFF Anim7_32	8-bit	Yes	Yes
IFF Anim8_16	8-bit	Yes	Yes
IFF Anim8_32	8-bit	Yes	Yes
IFF AnimBrush	8-bit	Yes	No
IFF AnimJ	8-bit	Yes	No
Merlin	8/16/24-bit	Yes	Yes
Picasso	8/16/24-bit	Yes	Yes
Real3D	8-bit	Yes	No
Retina	8/16/24-bit	Yes	Yes
Picture type	**Max bit-depth**	**Can you load?**	**Can you save?**
BMP	2/4/8/24-bit	Yes	Yes
DataType	8-bit	Yes	No
GIF	8-bit	Yes	No
IFF	8/24-bit	Yes	Yes
PCX	8/24-bit	Yes	No
Workbench icon	4-bit	Yes	Yes
Sound players			
IFF	sample	Yes	No

MainActor Pro also has ARexx functionality and includes a few scripts to make some processes simpler, though scaling and other functions still require the user to have a copy of ADPro handy, since several of the ARexx scripts need ADPro to do their magic.

Using MainActor Pro isn't particularly difficult, but it would be a lot easier if the manual was both more up-to-date and more forthcoming about the recent additions which differentiate the commercial package from the Shareware version. As it stands, the manual appears to be a printed version of the one which accompanies the Shareware package and, as such, doesn't fully explain several new functions. Irritatingly, there also aren't any useful ReadMe or English update docs included in the software.



What about the differences between the Shareware and commercial versions of MainActor? Well, there are more loaders and savers in MainActor Pro, and some of the routines have been re-written, but mostly they are rather similar in functionality, beyond MainActor Pro having access to several more graphics and animation formats (BMP, DataType, AVI and more graphics card support being the relevant additions).

The bottom line is that if you need to convert animations between platforms, MainActor Pro provides the best options, but the Shareware version gets you mostly there for £16 or so less. Either way, if you want to convert animations then MainActor is the way to go. Which version you choose is up to you.

A commercially extended version of a capable Shareware program. MainActor Professional requres any Amiga with Workbench 2.1 or higher. ■

MainActor Professional

Price: Price: £49.95

Supplier: BlitterSoft

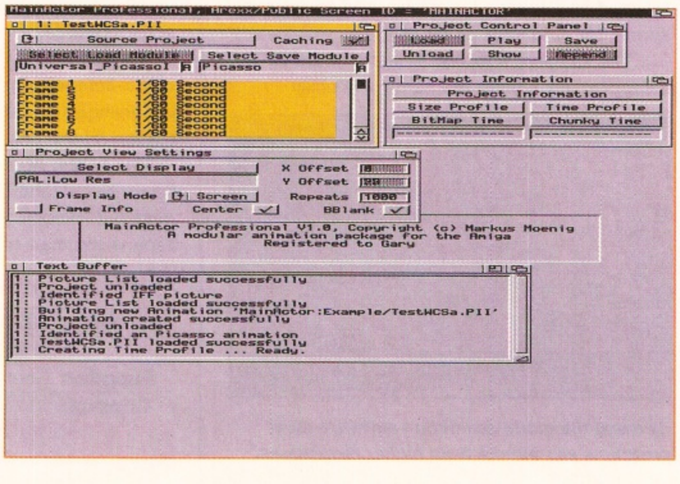
Contact: 01908 261466

Verdict: 85%



Credit to Eduard Schwan for this Mac animation.

This Macintosh animation can easily be converted by MainActor Pro.



The simple interface makes working with MainActor Pro very easy.

"To convert animations between platforms, MainActor Pro provides the best options."

Over the rainbow

The Cybervision64 has a lot to live up to if it's going to get **Graeme Sandiford's** *gold seal. Here's what he thinks...*

It doesn't matter how much time and effort you put into any graphical endeavour, if you can't display it in its full glory then you've wasted your time. For most graphics professionals this means investing in a 24-bit graphics board.

This purchase means an increase in the colours that can be displayed, an increase in the variety of screen resolutions, and an increase in display speed. There is no need to worry about colour palettes. Higher resolutions and faster displays give crystal-clear definition, and image sequences can be played at great speed.

The Cybervision64 comes in two flavours – 2Mb (£329.95) and 4Mb (£439.95), and is of an extremely high build-quality, fitting snugly into your machine without needing much pushing and pulling. Aside from the memory supplied, both models are the same. Despite the usual computer maxim of buying as big and as fast as you can afford, few people are likely to need the 4Mb board – although an extra bit of RAM always comes in handy! With a fast machine it's possible to use up to 16Mb of your machine's Fast memory for displaying images – as if you had up to 20Mb of Chip RAM.



One of the best things about the Cybervision is the 24-bit Photogenics preview mode.

Create a new mode

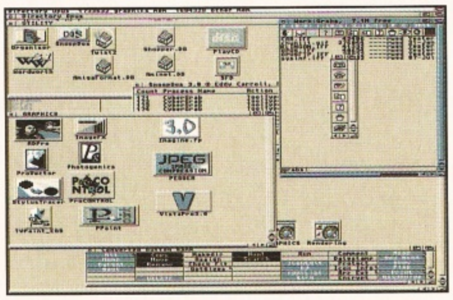
Installing the software is as easy as the hardware installation, except for those without a monitor manual. No example monitor drivers have been included, so you need to enter the frequencies that your monitor can safely handle.

To create the screen modes you wish to use, you have to use a program called CVMode. This enables you to specify a new screen, by entering values for your monitor's bandwidth, and minimum and maximum horizontal and vertical frequencies. Once you have this information, you can create new screen modes by entering the colour depth, horizontal and vertical resolutions. The software then calculates the sizes available for your monitor, using the information provided. There is also a program called NewMode, that can be used to promote the screen mode of certain programs to higher resolutions or colour-depths. Of course this practice has varying degrees of success depending on the program in question.

Drivers have also been supplied to work with six popular graphics programs. These libraries enable programs to use any of the Cybervision64 screens you have created, to either render or draw in up to 16 million colours. The drivers that have been supplied include a library for Real 3D v2 and 3, Cinema4D, ADPro, ImageFX, Photogenics and Photoworx. ADPro, ImageFX and Cinema4D worked okay, although there's no 24-bit preview mode for ImageFX.

However, using Real 3D and Photogenics was sheer joy. As soon as Photogenics is switched to a Cybervision64 screen you can process and draw in real time with 24-bit quality – being prevented from working in 24-bit and seeing a true representation of the image, rather than a preview, has previously prevented most people from getting the maximum out of the package. With Real 3D, the display library can be used as a screen for editing, and an external screen for rendering 24-bit images.

The software supplied with the board is disappointing – there are hardly any utility programs. It would have been extremely useful to have an animation viewer, screen-grabber and perhaps even a screen saver. More importantly, it would have been nice to have a Workbench emulation mode, such as that supplied with the Retina graphics card. It is possible to open a 24-bit Workbench screen, but Workbench can only display 256 colours. If Workbench emulation was available it would be possible to use ImageFX with a 24-bit 'preview'. To prove this, a program called Cyberwindow has been included, which can display 24-bit images in Intuition windows. Despite this lack of software supplied, there is already a surprising amount of support for this board and the CyberGFX software (compatible with several other popular boards). Utilities have already begun popping up all over the place, including an excellent screen-grabber.



By using the mode-promotion software most programs can benefit from higher resolutions.

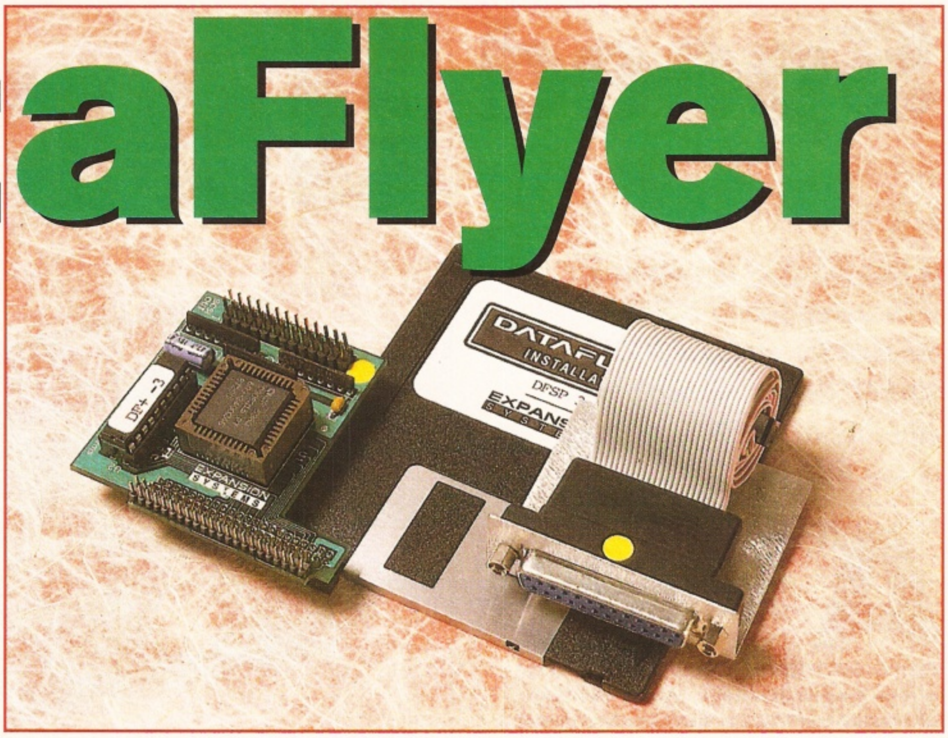
In performance this board is streaks ahead of the competition in its price range. It's unnervingly fast with a respectable range of screen resolutions, up to a maximum of 1,280x1,024. At the moment this is the graphics board to get, and I can't wait until all the video modules (including a S-VHS one) and expansions start coming out. ■

Cybervision64

Price:	£329.95 (2Mb)
	or £439.95 (4Mb)
Supplier:	Gordon Harwoods
Contact:	01773 836781

Verdict: 92% Star buy

DataFlyer



Could the Squirrel have its nuts stolen by the new DataFlyer SCSI connector? **David Taylor** *reviews this neat piece of kit.*

The ability to attach SCSI devices to Amiga 1200s has opened up an entire new avenue of expansion for the user. It brings all the types of peripherals available for other platforms to the home user. While the Squirrel is very simple to fit, it does hog the PCMCIA slot, making it a non-starter for some people who already use that slot. But the answer may be here.

The DataFlyer fits internally to the IDE port where you have your hard drive. Don't worry, there is a through port! Fitting this side is easy enough. Unplug your drive and fit a plastic shield to the left. Place the DataFlyer circuit board over the port and slot it home. The first machine we fitted this to was quite a snug fit, but it unfortunately refused to work. When I fitted it to my own A1200, it wasn't quite as tight, but seemed to sit firmly enough in place. Then, you slot your drive lead back on to the top of the DataFlyer and you're half-way there.

Loose screws

You then have to unscrew your floppy drive from its casing and lift it free. Next, thread the lead from the circuit to the spare expansion port at the far right of the A1200, and put the new SCSI port in place. Screw it home. Refit the drive and make sure that none of the connections are loose.

It might sound a little daunting to those people who don't like taking their Amigas to bits, and I'm inclined to agree – although considering how it works, the DataFlyer is as easy to fit as possible. If you are mildly competent, I certainly wouldn't deter you from fitting it – it's more fiddly than technical.

There's also a bit of software to install and here's where things fall to bits. The Squirrel comes with everything you need, but the DataFlyer is sadly lacking. It installs a few things, like devices and commands for mounting SCSI devices, but this doesn't solve it all. It was impossible to mount a CD drive using the usual icon-driven mountlist in DOSDrivers. Instead, it had to be done with a mountlist, using a different CD filesystem that wasn't supplied with the DataFlyer. OK, so it was the PD system, AmiCDROM, which is readily available, but that's not the point. Hard drives did seem to mount straight away – which was a blessing.

Ranting and raving

OK, so let's see how it performs. Two SCSI devices up, I thought I'd try and get on with some work and see how it bore up under normal usage. Guru. Now, given that I'd spent most of the afternoon looking at guru screens with Amiga Format's Technical Editor Graeme Sandiford, I was a tad bored of seeing it again. I tried re-booting to no avail. I was so irritated at this point that I switched everything off and went to rave and rant to anyone who would listen. When I switched it back on, everything came up. Unbelievable.

This saga goes on I'm afraid. Over the three weeks I tested the DataFlyer, it would intermittently fail for no apparent reason, or pause for 10 minutes on boot-up when trying to mount the devices. The obvious answer, you would think, would be a loose connection, but I checked so many times that if it were to be the cause, it would be down to a poorly manufactured interface. It also decided to crash on me when certain programs, like SysInfo, were loaded.

When I eventually removed the DataFlyer (with something of a sigh of relief), I discovered my machine refused to answer something in the StartUp-Sequence, so I checked both that and the User-StartUp. After numerous attempts, I finally spotted the offending lines nestled in my StartUp-Sequence. They were flagged, but I don't remember being told about them when I installed the software.

The DataFlyer is a great idea. If it had worked without a hitch and come with better software, like the SCSI HDToolbox and SCSIMounter that accompany the Squirrel, then it would have been a clear winner. OK, it's harder to fit, but it doesn't take up any ports and adds to the A1200's expansion capabilities.

However, because of DataFlyer's lack of reliability, the Squirrel remains a firm favourite.

If you have your PCMCIA slot occupied and the trapdoor used (so you can't fit a board with a SCSI module there), then this may be the answer, but only if you can get a guarantee that these faults were confined to a single batch. If this were the case, the DataFlyer could help you get the most out of your machine (although note that it is slightly slower than the Squirrel and more expensive). Otherwise, take a different route. ■

It gets better... (Thank heavens!)

When we spoke to Siren Software about the problems and the lack of sufficient software, we were assured that our problems were exceptional. The DataFlyer has been successful in the States and so any bugs should have been eradicated.

We are getting a new DataFlyer in for further use and will report on its performance in our next issue. In addition, the comments about the software have been acted upon and the DataFlyer now comes with all the necessary programs and devices.

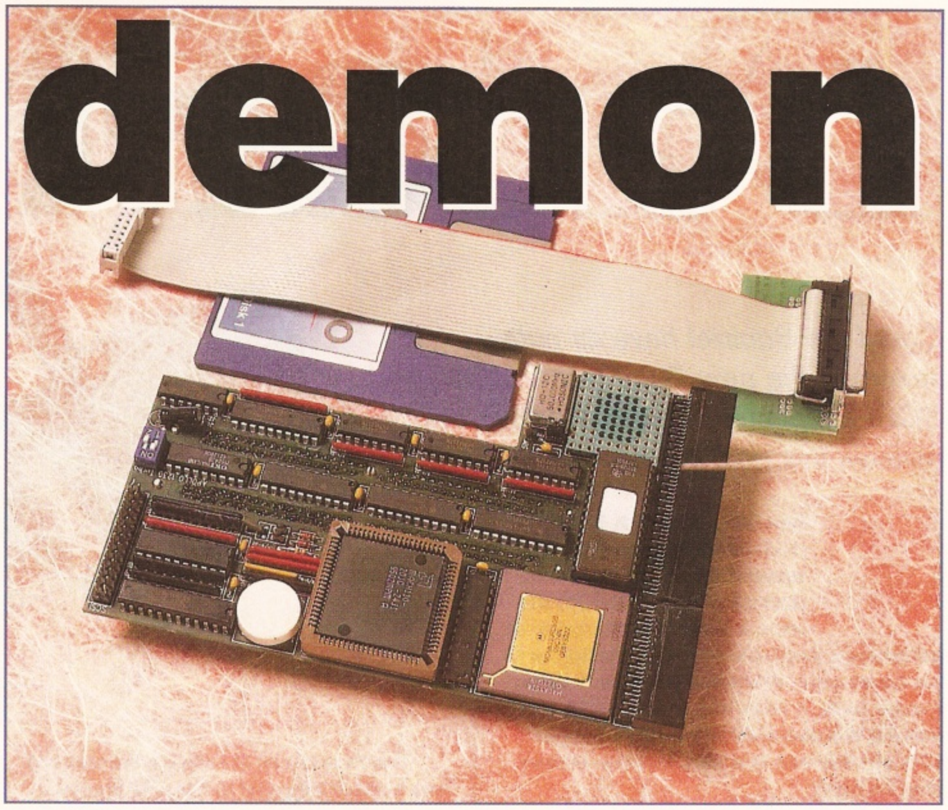
However, it still seems that there are other options, such as a SCSI connector on an accelerator board. Particularly since the real failing is in the lack of ability to autoboot SCSI drives – something that the Apollo 1230, for instance, can do. The DataFlyer is likely to be of interest to those who have used up their PCMCIA slot and trapdoor expansion already.

DataFlyer

Price:	£69.99
Supplier:	Siren Software
Contact:	0161 796 5279

Verdict: 65%

Speed demon



A 50Mhz 030 accelerator with autobooting SCSI module for under £300? **David Taylor** *doesn't know whether to laugh in disbelief or cry with joy.*

Arriving at the moment are a fresh spurt of accelerators. The best thing about them is their price. We may all aspire to the 040 and 060 boards, but most people find an 030 more to their pocket. It's not a case of settling for second best either, because the speed of this board is not to be underestimated.

After last month's 020 accelerator from the same series, I was looking forward to getting this little beauty plugged in. Unlike the Apollo 1220, this board has an extensive manual and some software to install. Before doing anything, I flicked through the manual (an original idea, not normally to my liking), because in the past I have installed accelerators that need software for the Amiga to use the new processor. I discovered no information about this at all and so took a look at the disk. The manual and the software are only for the SCSI module side of the board. To get the accelerator running, just plug it in the trapdoor and switch on.

It's a tight fit, but the board slots home with a little encouragement. Because of the design, you aren't able to put your trapdoor lid back on, because it would put too much strain on the board's connector pins, forcing the board up into the inside. Not a problem, just leave it off. Your A1200 is now a 50MHz 030 – cool!

Go-faster stripes

As far as speed is concerned I was pretty impressed with the 1220, which just pipped the 25MHz 030. However, this 50MHz 030, at twice the clock speed, registers on SysInfo as double the speed of the 25MHz 030.

The difference between the standard A1200 and the 1220 is more noticable than the difference between the 1220 and the 1230. Despite being twice as fast again as the 1220, i.e. now six times faster than the A1200, it's the leap from the original processor to anything faster that you notice. Don't get me wrong, I'm not saying that you might as well buy the cheaper accelerator. But if you already have an accelerator, you'd probably not be that overwhelmed by the increase in speed.

However, in comparison to the bare A1200, we are talking go-faster stripes with brass knobs on. [*Er, right, Dave. Didn't we fire you once this issue already? – Ed*] Well, you get the picture.

While it is possible to buy the 1230 without an FPU, I wouldn't. If you don't do work that requires complex calculations then you're probably not interested in an accelerator, and if you are, then an FPU makes a heck of a difference (especially since some graphics packages don't run without one!). The FPU adds an extra £90 on the price, but that's still only £380 to turn your A1200 into a beast that can easily outperform an A4000/030. It's not as fast as an 040, but it puts you up there with the big boys, giving home users a great deal of power.

Enough about the speed side, there's another even better reason to take a look at this board – the SCSI connector. Situated on the right-hand side of the board, all you have to do is slot the connector home and then fit it to the slot on the right-hand side expansion port, in the same way as for the DataFlyer (so I'll not detail this here, see page 39).

> "You can now connect **SCSI** devices to your A1200 and, what's more, you can **autoboot** them."

You can now connect SCSI devices to your A1200 and, what's more, you can autoboot them. This means that you can have a SCSI hard drive as your first hard drive. There's no need for an internal hard drive to be able to use SCSI devices, which you need for other SCSI connectors like the Squirrel or the DataFlyer.

Get connected

The manual goes into some depth about how to set up hard drives and even removable media. The software just needs booting, but to be honest it requires a bit more work. Although it's reasonably easy to use, I had a few problems. I also found that I couldn't attach some SCSI drives, a Fujitsu magneto-optical drive in particular. This is a real shame, because the Squirrel can use this drive without any problem. However, it is quite common to find some drives working on some controllers but not on others.

Hopefully, a new device will be written and new software released to make it even more compatible. Thankfully, you can buy a SCSI hard drive from Siren, which comes ready to boot on the Apollo. For more information on this drive, take a look at the storage feature this month, starting on page 20.

The Apollo 1230 board offers a lot for your money. With the FPU and extra RAM you'd have a very comprehensive board, and with the range of SCSI devices growing daily, the module is a boon for serious users. ■

Apollo 1230

Price:	£289.99
Supplier:	Siren Software
Contact:	0161 796 5279

Verdict: 87%

Wash and go



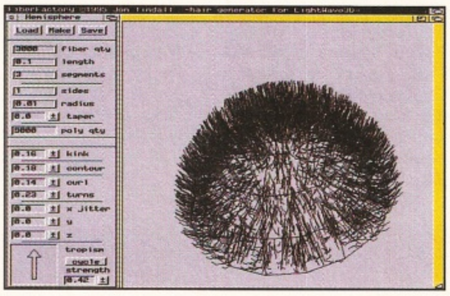
Brush up your 3D as ***Gary Whiteley*** *takes a fine-toothed comb through Fiber Factory's hair generating abilities (groan).*

Every now and then there comes a time when you want one of your 3D models to be hairier than the average pubescent school kid. You sit down at your Amiga, load up your 3D package and try to figure out just how to make that hirsute horror without going bald in the process. After much gnashing of teeth you realise that what you're trying to achieve is so hard that there isn't enough time in the day to do the job to your satisfaction.

If this scenario sounds familiar, then you'll be glad to hear about Fiber Factory, a hair generator for LightWave, which takes most of the strain out of producing hairy and furry model effects. Let your mind run free and think of all those wee hairy beasties you've always wanted to make but never had the time for: fluffy teddies, furry dice, angora rabbits, spiky conkers, cats, dogs, sheep, beards, luscious heads of hair, scary spiders, woolly mammoths and warm woollen mittens. Now you can have hair with everything, thanks to Fiber Factory.

So what about the practicalities? Obviously, since it works with LightWave you'll need a copy of LightWave running on your Amiga, and you'll also need plenty of memory, since Fiber Factory can produce models with a huge amount of points and polygons.

Fiber Factory comes on a single disk, along with a 26-page manual. Installation is easily done by dragging the program icon to a suitable location on, preferably, a hard disk. Upon loading, something strange will happen – your display will shrink to NTSC size, indicating the origin of the program and the tendency for Americans to forget that there are other display systems in use around the world. Not that it makes the program harder to use – it doesn't – just that it would be nicer if we PAL users (and there are more of us than that NTSC lot!) could use our normal displays, too.



With Fiber Factory you can preview your hairy designs before importing to LightWave.

How's it hangin'?

Fiber Factory's simple interface has a menu/parameters area and a display window. A LightWave object is loaded in, the desired hair parameters are set up, the Make button is pressed and (depending on the speed of your Amiga) you'll very soon see your object come over all hairy. The kind of hairiness is determined by how you set the parameters, the range of which affects how the hair grows on the object. You can control the number of hairs, their length, diameter, number of segments (important if you want curly hair), how curly, kinky or messed up the hair is, how it lays against its parent object and in what direction (and to what extent) it exhibits tropism – in other words how it predominantly 'hangs'.

It sounds easy, and in most respects it is, so long as the model you're adapting is quite a simple shape, or entirely covered in hair. If it isn't, and let's take the example of a human head to illustrate the point, then you'll need to do some preparation work before letting Fiber Factory loose with its magic hair-restoring potion. Unless you're modelling a Wolfman, the typical human head only has hair in restricted areas, and predominantly on the scalp. To make hair for a human requires splitting the head into several parts, depending on the hair style you wish to create. For long hair with a front fringe two parts are required – a front area which grows the fringe and a back area to grow the longer hair. So you'll need to use the Modeller to make the separate parts to grow hair from.

Once generated, the hair can be saved to disk. Because only the generated hair, and none of the original model, is saved, it does not affect the original in any way. Simply load LightWave, load the original model and then the hairy parts.

Fiber Factory produces two forms of model, depending on parameter choice. The first is made entirely of segmented two-point polygons which, although they have no thickness, present the illusion of solid hair. They can be shadow-mapped, coloured, and treated like regular LightWave objects. The second type of model is more 3D, since the number of sides, thickness, and taper can also be set for the hairy effect. This means that, as well as having visible thickness, hair can be created in the form of spikes or twisted points, which might not always look good as hair, but could prove invaluable for making weird spiky surfaces, porcupines etc.

Fiber Factory certainly works well, though there are a few niggles. For instance, not all the parameters allow direct data entry, relying instead on mini-sliders. There's no Abort button, so you just have to wait for Fiber Factory to finish generating, even if you know that what you've done isn't going to be right. No path options are available, so you can't default Fiber Factory to use a particular drawer for object storage/retrieval, and there are no safety warnings. If you didn't mean to write over a particular object then oops, it's too late! Also, the manual could do with more tutorials, and some on-disk object examples would be nice.

That said, Fiber Factory is a fine little program which will save countless hours of work if you happen to need something hairier than a bare bear in your image.

Requirements: Amiga with LightWave (and lots of memory). ■

Fiber Factory

Price:	£99.00
Supplier:	Cybersystems
Contact:	01843 230916

Verdict: 80%

CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD



Aminet Set 1

Aminet is the world's largest collection of freely distributable Amiga software. Up to 10,000 users access the vast archives every day and countless programmers publish directly via Aminet. A wide variety of programs is included: applications, games, demos, pictures, mods, animations, developer material, networking software, programming languages, and more. Until recently, access to Aminet was restricted to international network users. Only 3 years after its inception, Aminet now holds the equivalent of more than 4,500 floppy disks of software. User friendly access software makes the aminet CD's a pleasure to use. Aminet Set 1, the first "complete" Aminet archive on CD, consists of approximately 4 gigabytes of software in 12,500 archives.

141MB	Development software
103MB	Utilities
134MB	Graphics software
337MB	Pictures & animations
87MB	Text software
39MB	Documents
336MB	Graphics & sound demos
160MB	Games
86MB	Communications
6MB	Hardware related
63MB	Business software
12MB	Disk/HD tools
109MB	Miscellaneous
358MB	Music modules
29MB	Music software

£29.95

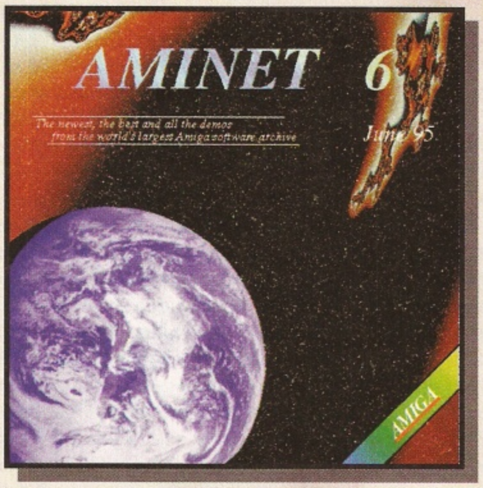


Aminet 7

Aminet CD 7, dated August 1995, contains more than 1 gigabyte (uncompressed) of software in thousands of archives. Since the release of Aminet 6 CD more than 500 MB new software has appeared. The current edition has a special focus on images. 10.000 images for DTP and multimedia were included.

25 MB	Business software
30 MB	Communications
50 MB	Graphics & sound demos
10 MB	Development software
1 MB	Disk/HD tools
15 MB	Documents
55 MB	Games
40 MB	Graphics software
1 MB	Hardware related
40 MB	Miscellaneous
110 MB	Music modules
10 MB	Music software
15 MB	Text software
20 MB	Utilities

£14.95



Aminet 6

Aminet CD 6, dated June 1995, with a focus on demos is still available in limited quantities. Get in contact with your dealer as soon as possible to preserve a copy of this famous CD-ROM.

55 MB	Business software
52 MB	Communications
500 MB	Graphics & sound demos
34 MB	Development software
4 MB	Disk/HD tools
25 MB	Documents
58 MB	Games
56 MB	Graphics software
30 MB	Top-downloads
58 MB	Miscellaneous
101 MB	Music modules
13 MB	Music software
14 MB	Text software
34 MB	Utilities

£14.95



Aminet 8

An update to the world's best-selling Amiga CD-ROM-series has just been released. Aminet CD 8, dated October 1995, contains more than 1 gigabyte (uncompressed) of software in thousands of archives. Since the release of Aminet 7 CD more than 500 MB new software has appeared. The current edition has a special focus on modules. More than 1.000 were included. Many modules are of a very high-quality and feature 8 voices. The excellent user-interface has also experienced further improvements and we are proud to present you a new CD-ROM of superior quality for the Amiga.

80 MB	Business software
45 MB	Communications
60 MB	Graphics & sound demos
30 MB	Development software
5 MB	Disk/HD tools
20 MB	Documents
60 MB	Games
45 MB	Graphics software
30 MB	Top-downloads
40 MB	Miscellaneous
400 MB	Music modules
10 MB	Music software
10 MB	Text software
30 MB	Utilities

£14.95

Subscription



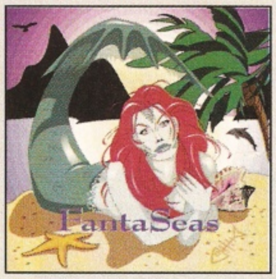
The Aminet CD-ROMs are published bimonthly which means that 6 new valuable issues are released each year. PDSoft is offering an inexpensive and reliable subscription service. Telephone: 01702 466 933. Get yours on the day of release and be sure that you won't miss a single issue.

-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-



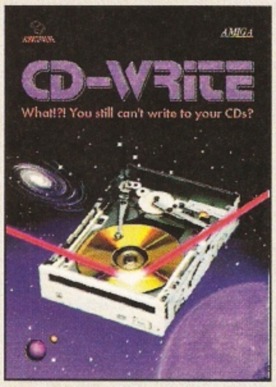
FrozenFish

The FrozenFish CD-ROM, August 1995, contains all 1.100 "Fish Disks", one lha archive per disk, with a product info file. There are also 102 MB animations and graphics utilities aswell as 74 MB pictures included. £19.95



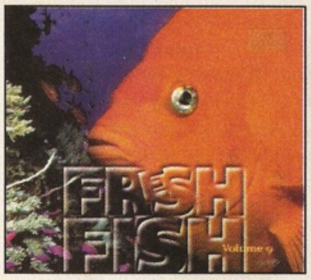
FantaSeas

Fantaseas is a Portfolio Photo CD containing almost 300 high quality underwater photographs. This two CD-set contains reef shots teeming with brilliantly colored fish, macro shots of various anemones detailed shots of World War II wracks, plus much more! Photo sites ecompass the world, ranging from the walls of Grand Cayman to Mexico's Sea of Cortez. Each photograph is available in the five standard Photo CD Image Pac resolutions. £44.95



CD-Write

What!?! You still can't write to your CDs? CD-ROMs have long been an essential part of Amiga computing. Many users already own a CD-ROM drive, and the number of software packages available on CD is increasing steadily. Until now, though, it was not possible to write to CDs. We have solved this problem with our new revolutionary product: Ralph Babel and Stefan Ossowski's Schatztruhe are proud to present what can be considered a marvel of technology: CD-Write enables you to virtually write to CDs with an ordinary CD-ROM drive. From now on, you will be able to write, delete, and modify data on your CDs. This product will take you into a new era, and you will be able to utilize CD-ROM technology to its fullest. £44.95



FreshFish 10

The FreshFish CD-ROM-series, produced directly by Fred Fish, provides Amiga users with hundreds of megabytes of the latest freely redistributable software. Published approximately every two months, each volume is a two CD set containing new submissions since the latest volume, as well as an ever growing selection of tools, libraries, documentation and other useful material that is updated with every release. £29.95



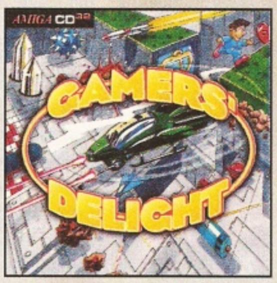
CDBoot 1.0

CDBoot is a fantastic new product that enables you to use almost any CD32 games on an A1200 or A4000 (with AT- or SCSI-CD-ROM drive and any filesystem). You can create a configuration file for each CD, containing information on the Joypad emulation. You can also save the highscore of each CD32 game. The usage and installation of CDBoot is very easy, also for beginners, due to the excellent English manual. Since the compatibility is very high, you can use 98% of CD32 games currently available. CDBoot is an excellent software solution for all Amiga-Freaks, who would like to enter the world of CD32 games! £34.95



FreshFonts II

The FreshFonts II CD-ROM contains 632 megabytes of fonts for almost any computer system. Most of the fonts are freely distributable, except for the Thienen fonts, which are exclusive on this CD. Each of these fonts is included in four different formats: DMF, Agfa IntelliFont, Adobe and TrueType. There are 231 font families on this CD (each containing of up to 8 different styles). They are classified in seven categories: Deco (63 families), Non-Latin (33 families), Pictures (16 families), Sans Serif (29 families), Script (36 families), Serif (36 families), Thienen (19 families). £19.95



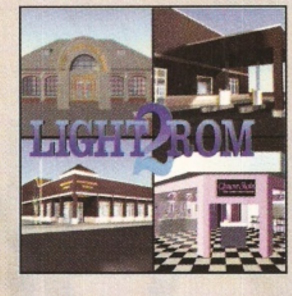
Gamers' Delight

This CD contains 40 games for the Commodore Amiga from differing categories. Action, Jump & Run, Card Games, Puzzles, Strategy Games - a whole range of computer entertainment awaits! Gamers' Delight will hold you captivated for hours and guarantees long-lasting pleasure. All games are commercial versions - no public domain & no demos! This CD can be run on any Amiga with CD-ROM drive, CDTV or Amiga CD32 Console with 1 MB free memory and Joystick/Joypad. £29.95



GoldFish 2

Volume 2 of the GoldFish series contains a selection of software, animations, pictures and other material released on FreshFish CD-ROM's between October 1993 and November 1994, with most of the material updated to the latest available versions. All material is included in both archived (BBS-ready) and unarchived (ready-to-run) forms. £29.95



LIGHT ROM 2

The LIGHT ROM 2 CD contains almost 650 megabytes of 3D objects, images, images equences, scene files, surface attributes, bump maps and textures in IFF and TARGA formats, DEMs, and Lightwave rela- ted text files. LIGHT ROM is an invaluable resource for Lightwave users, and as a bonus, includes material for Sculpt 3D and Imagine users. £44.95



da capo

The da capo CD-ROM is a source for high-quality music, both for listening enjoyment and for samples to use in creating your own music. This is not just another random collection of modules. Many modules and samples are exclusively to da capo. Included are more than 1400 of the best available modules and 2000 high-qualioty samples. £27.95



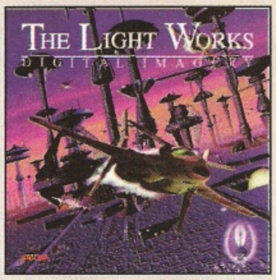
Gateway!

Gateway! offers NetBSD 1.0, a full featured UNIX-like operating system with both sources and binaries for the Amiga, i386, Sun 3, and other architectures. Go netsurfing with the large selection of supplied networking tools. Other supplied packages include a binary release of the X window system (X11R6) for the Amiga, with many additional clients, and packages such as perl, emacs, games, mail programs, and many megabytes of important text files such as RFCs and FAQs. A complete installation guide is available on the CD. There are also some AmigaDOS internet utilities, such as clients for AmiTCP and Envoy. £9.95



Meeting Pearls Vol. II

The Meeting Pearls Volume II contains 650 MB of the finest FD software via a special user interface, which has been created to allow you to find the program of your choice with ease. The contents: 35 MB of selected html-pages - 50 MB graphics programs and data -15 MB games - 10 MB from "The Party '94" - 13 MB disk, hard disk - CD-ROM and SCSI tools - 19 MB various other tools - 11 MB educational software - 25 MB terminal programs - 25 MB animations, mainly from Eric Schwarz - 40 MB developer tools (e.g. pre-installed compiler (DICE, Oberon, Modula), Commodore-Includes, GUI-Tools) - 9 MB music programs - 10 MB midi programs - 27 MB pictures - 60 MB texts, FAQs, CD contents files, etc. - 40 MB linux for Amiga - 100 MB TeX installation (PasTeX incl. 600 dpi and fax fonts) - 38 MB movie data base - 50 MB archives for Psion - 18 MB modules - 50 MB NetBSD for Amiga, ... £9.95



The Light Works

Raytracing - A fascinating area of the computer graphics. Pictures from the computer, perfectly rendered, fascinate people all over the world. The Amiga was the first computer to be used for raytracing, and today it is still a leader, with many high quality programs. A real artist of raytracing is Tobias J. Richter from Cologne/Germany, whose detailed objects stun the people. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program. The objects are highly detailed and extremly realistic due to the application of complex surface textures of the models. Until now it was difficult to acquire these objects in order to create ones own scenes or animations. £29.95



Texture Gallery

Texture Gallery is a 2 CD-ROM set containing over 1.3 gigabytes of textures designed for graphic artists. Included are hundreds of 24 bit textures in several different formats, including IFF, TARGA, JPEG, PICT, SGI, and TIFF. These textures are perfect for use with 3D programs like LightWave 3D and can be used to create bump maps. All of the textures are represented in thumbnails renderings for easy previewing. £44.95

All products are available in your local Amiga-shop or through national mail-order-companies

SCHATZTRUHE

International Distributor:

GTI

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Grenville Trading International GmbH
Zimmersmühlenweg 73
61440 Oberursel · Germany
Tel +49-6171-85937
Fax +49-6171-8302
EMail: Compuserve 100336,1245

CHIARI OFFICE · 1995

CD check out

A novel selection of CD-ROMs this month. **David Taylor** *extols the virtues of originality. We have an encyclopedia to rival the PC's Encarta, and the latest in the Aminet collection, Aminet 7.*

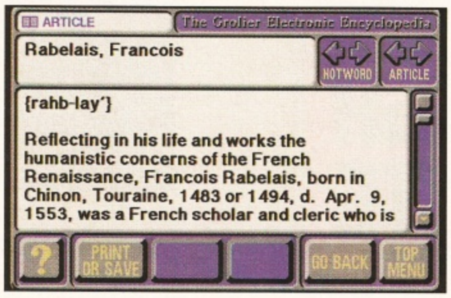
There's been a much-needed lull in the deluge of CD collections. This month I haven't had to wade through the usual set of CDs offering much of the same. We've got an encyclopedia – an ideal source of enlightenment – and the latest Aminet CD for all the recent releases.

Grollier Electronic Encyclopedia

The problem with doing any encyclopedic research is the amount of cross-referencing involved. An electronic encyclopedia does all this for you. Click on anything that you'd like to read about and you can flip to and fro from your original subject. There's also support material, with pictures and sound files.

I'd have liked more audio files and the only military leader's speech included is George Washington's waffle. These sound files are samples played through the computer, not directly from the CD, but the quality is high.

The information is quite comprehensive. I was pleased to find a reasonable entry on the likes of Arthur Rimbaud (pronounced Rambo, sort of), a 19th century French poet. Although the range of data is large, you don't get masses of information on each entry, but you do get enough to start you off. There is a bibliography for the entries, so you can go and find the relevant book in your library for further research. As such, this is ideal for reference and for school project research, but that's the way with all encyclopedias – not an end, but a beginning.



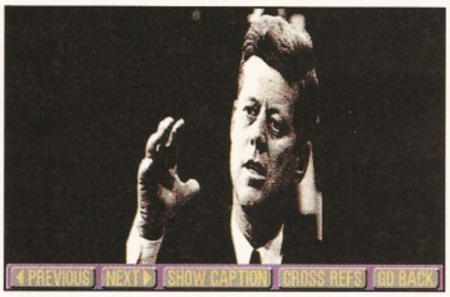
A comprehensive electronic encyclopedia...

You can probably use some of the picture files, because I think most are out of copyright. The program can be launched from Workbench on normal Amigas, but is also CD[32] compatible.

Grollier Encyc

Price:	£26.99
Supplier:	Epic Marketing
Contact:	01793 490988

Verdict: 90% — Amiga Shopper Star buy



...some support files are of reasonable quality.

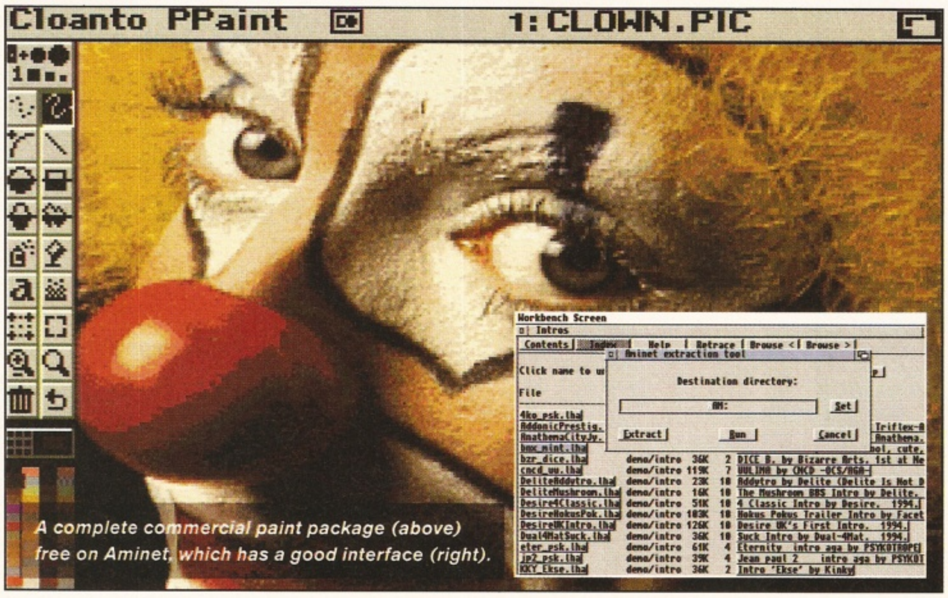
Aminet 7

After a poll of Internet users, the decision was made to release Aminet CDs bi-monthly. But that doesn't mean it's all brilliant stuff. In addition to the 500Mb of new archives on this CD, there are also some clip art images to offer the buyer more while avoiding archives that have been on a previous CD. I have been using this CD for the last three weeks and find it better than the last one. You can't blame the Aminet compilers for the quality of software offered because they are tied to including the new Aminet releases – that's what these CDs are. Remember that with so much data, there will be programs you love and programs you hate. However, when compiling our Coverdisks we ensure that as much as possible is as new as possible, which means Aminet – no alternative.

The user interface is the same as before, offering a search facility and a full guide index. The index is great, allowing you to read the description or click on the archive to extract it to RAM. You can run demos directly, meaning the CD de-archives the demo and runs it.

Also, there's the complete version of Personal Paint 2.1 – a great program, if hardly new. There's also a demo of the latest PPaint and a full program called PPrint (it's German only, but can be worked out if you play around).

For a CD with truly new programs, a bonus program and some images for your library, Aminet 7 stands apart. ■



A complete commercial paint package (above) free on Aminet, which has a good interface (right).

Aminet 7

Price:	£14.95
Supplier:	Schatztruhe
Contact:	00 49 6171 85937

Verdict: 85%

Canon printer compo



One lucky Amiga Shopper reader could walk away with a Canon BJC-600e printer. How? Read on and find out…

The Canon BJC-600e printer was given 91 per cent and an Amiga Shopper Star buy award in our printers Supertest in issue 51 (July 1995). This is what Larry Hickmott had to say about this printer: "The quality of pictures, when printing from applications like Final Writer, was almost photographic and, in colour mode from applications like Final Writer and Wordworth 3, the BJC-600e definitely has the edge over all the other printers [in the Supertest], mainly due to the printer driver."

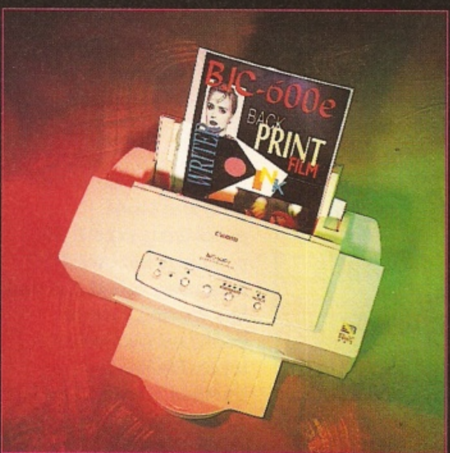
Larry also reckoned that "the speed of the BJC-600e is impressive to say the least." Praise indeed from the critical eye of Mr Hickmott.

Now one lucky reader of Amiga Shopper has a chance to win one of these excellent printers for themselves, because Canon (UK) have generously let us have a BJC-600e to give away.

To be in with a chance of winning this unmissable prize, all you have to do is answer the following four questions and send your answers in to the Amiga Shopper offices at the address given below.

We will randomly select the winner after the closing date has expired. The name of the winner will be printed in the letters page of the Christmas issue of Amiga Shopper, which will be on sale on Tuesday, 14th November 1995.

In the meantime, if you want to know more about the BJC-600e or any other printer in Canon's extensive range, give them a call on ☎ 0181 773 6000.



This Canon BJC-600e could be yours.

The questions

1. Name three different types of printer.
2. What are the average dots per inch of a laser printer?
3. What does CMYK stand for?
4. Who originally patented BubbleJet technology?

How to enter

Write your answers to the four questions above on a postcard (or on the back of a sealed envelope) and send them in to:

Canon Printer Competition,
Amiga Shopper,
30 Monmouth Street,
Bath BA1 2BW.

The closing date for this competition is Tuesday, 17th October 1995.

Competition rules

1. All entries to this competition must be received by Tuesday, 17th October 1995.
2. Only one entry per person is allowed.
3. Employees of Future Publishing Limited or Canon (UK) Ltd are not allowed to enter this competition.
4. The Editor's decision is final.

"The **speed** of the BJC-600e is **impressive**, to say the least."



Jason Brown, this month's winner, submitted tonnes of pictures, so we've printed a selection. The little mouse character is taken from an excellent animation Jason sent as well. They were created on an A1200 with 10Mb RAM. Remember, even if your picture doesn't win, you may still see yourself in lights as we try and use your efforts elsewhere in the mag. If you want to win £25, send your picture as a JPEG to: **David Taylor, Future Publishing, 30 Monmouth St, Bath BA1 2BW.**



Fifteen years ago, Wednesday afternoon was half-day closing, and it's always been games afternoon in British universities. But, here at Amiga Shopper, we don't wimp out and scive off, oh no. This Wednesday afternoon, like any other, we're writing the Amiga Answers section that you're now reading. Except you're reading my intro and not the bit where we solve your problems, but you probably know that. Er, yes. [Dave, you're fired – Ed]. T'riffic.



Nick Harper is Amiga Shopper's production editor. He used to work for Europress Software, writing demos for both AMOS 3D and AMOS Compiler. Together with technical editor, Dave Taylor, Nick has this month reviewed the mass of Public Domain software. Nick once received 94 per cent from ST Format for his Shareware game, Ozone, so he's quite qualified in these fields.



Gary Whiteley is our expert on video and graphics. He regularly produces work for films and TV. Gary has also written books – amongst them is Amiga Desktop Video, published by Future Publishing. Gary also regularly reviews new products for Amiga Shopper – if you turn to page 41, you'll find out what he thinks about the rendering package Fiber Factory.



Toby Simpson is our code clinician. This month he continues our C tutorial series (see page 62). Toby has also written several books, including ARexx: Your Built-in Turbocharger, published by Future. Toby's day job is working for Millenium Software, programming their games, which just goes to show that he knows a thing or two about his subject!



Larry Hickmott is our DTP and word processing expert. He produces his own DTP magazine called Em and has written several books on his favourite topic. He has just finished a book called the Wordworth Companion for Digita and Future Publishing's books division. Larry has also written the second part of our DTP tutorial (see page 60).

AMIGA ANSWERS

Got a problem? Odds against you? No one to turn to? Contact Amiga Answers. With a strong shoulder to cry on, our Amiga experts will cradle you in their arms and guide you through your troubled times.

Wang connection

Printers

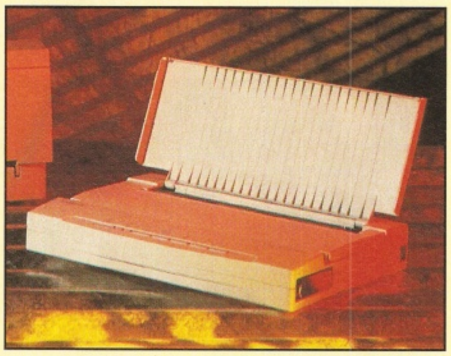
I have obtained a WANG laser printer and want to connect it to my computer. Is this possible? What connections do I need to connect it to an Amiga 1200?

V. Andrews
Notts

Check your printer to see if it has a Centronics Parallel connection. These are generally 32-pin connections (on the printer side), although there are a number of different types such as the two you will find on the Hewlett-Packard LaserJet 5P. If your laser has a standard 32-pin Parallel connection, then you can connect it to your 1200 using a Centronics Parallel cable. Before you can use the laser, you'll need a printer driver, and for that you will need to find out what emulations your printer has. A popular emulation is LaserJet. There are a number of variations on this but the important point to remember is that if your printer can run under an emulation such as a LaserJet, for which we know there is an Amiga printer driver, you will be able to make use of your laser in this mode. Another option is to check whether the laser will accept PostScript files. Many Amiga applications can print to PostScript printers and this provides another avenue when wanting to print your documents. ***Larry***

Answers contents

If you are looking for a particular problem, why not use this handy index, arranged by topic, to find the questions which concern you.



Printers are the most popular peripheral, but cause the most grief.

Canons in colour

Printers

I have a Canon BJ10SX BubbleJet printer I use for printing graphics from my Amiga. I would like to print out in colour but I have no money available at this time for a colour printer. I was informed by a friend that the answer to this would be a colour separation package to print out the three different colour components on the same sheet of paper on three passes. However, I have not been able to find a package that will work on the Amiga. I believe Personal Paint v6.1 has a colour separation facility, but are there any other packages that will take an image from Photon Paint or Deluxe Paint and separate the colours?

Thomas Turner
Ilkley

If you want to separate colours from the two software packages you mention, it will need to be done in the printing stage. CanonDisk can do this, although I doubt whether it will be very successful with your model of printer. The CanonDisk drivers that will separate colours are for the colour printers like the BJC-4000 and BJC-600e (see page 45), and because there are differences between these printers and yours, using such a driver with your BJ-10SX may result in poor quality pictures.

It's also worth pointing out that doing multipass printing is hit-and-miss, because the paper feed may not be the same with each sheet and therefore the colours won't be in registration (creating a blurred effect). You may also need to use refilled cartridges and, according to Canon, these could damage your printer. I realise money is tight, but the best way to print colour is by using a colour printer. The choice nowadays is perhaps the best it's ever been, with lots of makes and models at very low prices. ***Larry***

Trying to connect you

Monitors

I'm trying to connect a Taxan Kaga Vision III RGB monitor to my A600's RGB video port. I have been able to obtain a picture, but it isn't as clear as the one I can get by using the video input on my television.

I was under the impression that a better picture would be possible through an RGB monitor. Is this true? I have supplied the connection information for the monitor on an attached sheet. Your assistance would be gratefully received.

Ian Lock
Longfield, Kent

The Taxan monitor you have is a rather old design (first introduced in 1982) and is a CGA compatible monitor with a horizontal frequency of 15.75kHz (i.e. near enough PAL compatible), and vertical frequency range of 49-64Hz, which in theory means that it will very likely work with the Amiga, as you have rightly surmised.

The switch settings you mention perform the following functions:

Position 1: IBM CGA – this is where the switch should be set for use with the Amiga.

Position 2: EIAJ connector – selects the EIAJ input on the monitor (for use with computers like the BBC micro).

Position 3: XRGB 1, 2, 4 or 8 – for use with Apple II (or Macintosh) computers.

Unfortunately, there's a major drawback to using this monitor with an Amiga, since it is

▶ 48



Turgay Shefri wants to know whether the GVP G-Lock is best-suited to his needs...

TTL only. Normally the RGB connections taken from the Amiga would be the analogue ones (i.e. from pins 3, 4 and 5), not the digital (TTL) outputs you have used. Using these connectors (Amiga pins 9, 8 and 7) means that you'll only get 16 colours from the monitor, which is, unfortunately, how TTL displays operate.

So whilst your statement about getting a better display from an RGB monitor is generally true, it doesn't hold in all cases, as you've already found out. To put it plainly, for an RGB monitor to be suitable for use with a standard Amiga it must have analogue RGB inputs and have a horizontal sync frequency of around 15.6kHz, as well as suitable horizontal, vertical or composite sync connections.

Unfortunately, the bad news is that there's no way of improving the Amiga display you currently get from your Taxan monitor, so you'll either have to go back to using composite video with your TV, or look for a more suitable RGB monitor (see page 24). ***Gary***

Which genlock?

Video

I'm a bit confused about genlocks. Your genlock review in issue 50 recommends G-Lock for software control, or Maxigen for hardware, but it doesn't give any comparison of image output quality between the two genlocks. I need to use one of them for advertising films (which may be cut in Turkey), so please could you tell me which is the best for me for definite? We have a budget of £300 with which to buy a genlock.

Just to fill you in on some more details, I use an Amiga 1200 with Scala MM400, and Vidi-Amiga RT24, couples with an S-VHS camcorder and recorder.

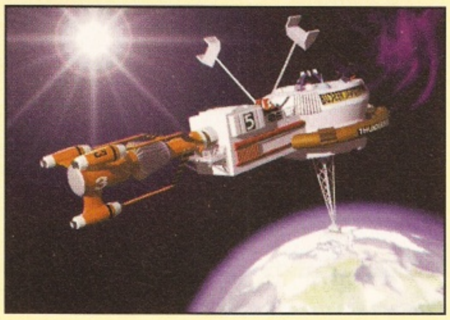
Turgay Shefri
Dalston, London

Personally, I have no experience of the Maxigen at all, so I can't give you an opinion of it. Several years ago when I tested a G-Lock I wasn't overly impressed with its output quality (especially when measured on professional video testing equipment), but I've heard things have improved since then. I also understand that Lola will be releasing an S-VHS genlock in the near future, and going by their previous products this should also be worth checking out, assuming that the price is right.

The best advice I can give you is to get demonstrations of each potential genlock within your price range, if possible testing them with both your camcorder as input and VCR, to record the output to tape. Compare the results and let your eyes decide which will best suit your needs. I would also recommend that, if at all possible, you get a video engineer with the proper test gear to check the outputs of each genlock and, if they are not within acceptable specification limits, don't buy them. This will help to ensure that you get the best possible quality for your cash, and hence the most favourable results. Steve McGill, who did the genlock Supertest in AS50, recommends the Maxigen over the G-Lock, for your needs. ***Gary***



... or whether he'd be better off with the Maxigen 2 Broadcast.



Here's a gratuitous LightWave shot that we've printed before, but we still like it.

LightWave error

Software

I have an Amiga 1200 with a Blizzard 1230 turbo, 16Mb Fast RAM, an 84Mb internal IDE drive and a 250Mb Overdrive hard drive which uses the PCMCIA slot. Recently I have purchased the stand-alone version of LightWave 3.5, which is from where my problems stem.

When I boot my system from the Overdrive, I find that when I install LightWave I get an error message during the installation of disk 2, stating an error with the StartUp-Sequence. All other software installs without difficulty. However, if I reverse the process, and boot from the internal Conner drive, LightWave installs properly. As I wish to boot from the larger drive I would like some advice. As suggested in your magazine, I tried altering the MaxTransfer rate to 0xffff, but the Overdrive does not accept the change and continues to use the default settings.

I have been using LightWave from the internal drive and have set up a tutorial scene, which I tried rendering and saving as an anim into DPaint IV without success. I set the Record menu to Save Anim, which resulted in an error message. This is due to no Framestore: path being available, so I re-routed to my own path and chose Automatic from the Render menu. However, only one picture was rendered and saved. I had some success saving as RGB files, but when I loaded them into DPaint individually, I obtained an error message to the effect that the pictures couldn't be loaded in as they were "bigger than the screen size." I tried setting the screen mode in DPaint but I was unable to match the overscan of LightWave.

I wonder if you could also tell me whether the A1200 is compatible with the Passport 4000 and the Video Toaster?

As you can see, the majority of my applications are in desktop video and I would be grateful for any help you could give me with the above problems.

Michael I. Kelly
Dundonald, Co. Down

Although it's been some time since I saw an Overdrive, I went and hunted down a Smart Stor drive, which I believe came with the same installation software. After taking a look, it appears that they do use the same StartUp-Sequence as for an internal drive. You haven't given the exact error, nor whether you've altered the StartUp-Sequence yourself. I'll assume you haven't. I don't think this problem is to do with the Max transfer rate; I think the problem lies with it's attempt to write certain assigns to your user-startup.

When LightWave (and many other programs) install, they write certain assigns to your user-startup, which means that they will be executed every time you boot. Nothing, with few exceptions when a patch installs, should attempt to alter your actual StartUp-Sequence, only the user-startup. This file can be found in your s: directory on your sys: partition.

There are several possibilities. First, does a user-startup file exist? If not, create a text file called this and place it in your s: directory. Is your user-startup protected? The protection bits should be set to RWED. To check this, open a Shell and type "list s:user-startup <return>". There should be a set of hyphens with the letters previously mentioned in them. If there aren't, you need to set the protection bits so that the installation can write to your file. You need to use the Shell again. Type "Protect

Disk top tip

Here's a very simple tip that can save endless searching for disks, or even the loss of one of your disks from a set. Nowadays most applications, and even quite a lot of PD, comes on more than a single floppy, so you need to keep the disks together, which can become difficult even in a disk box. However, it is still essential even if you install the disks to a hard drive. The answer is easy. Set the Write Protect tabs on the floppies to Protect, and then put the disks in order. Loop a piece of string through the hole and lightly tie them together. Hey presto, you'll not lose any of the disks. Well, unless you lose the whole set, that is.

s:user-startup +rwed <return>". Lastly, and least likely, is your Sys: partition full? **Dave**

I'm not sure what the problem you're experiencing with saving anims from LightWave is caused by, since LW 3.5 won't allow you to use any of the formats marked VT4000, which require a Video Toaster to be present. As a test I set up a small 320x256 low-res animation and, in the Record menu, set it to save as a 6-bit HAM animation called TestAnim. A short time later I had an animation which played back via View (a PD image and animation viewer) just fine. Why not try setting up an 8-bit HAM animation in a similar way?

There is, however, one major drawback to making such animations in LightWave, in that the palette can't be locked, so each frame has its own palette. This is fine for simple playback with a program like View, but if you want to load it into DPaint, each frame has a different palette meaning you have to re-map them all to create one palette. Otherwise you'll find yourself with a psychedelic animation!

You'll also find that LightWave over-rides any resolution settings from the Camera menu, and sets its own default sizes (in my case 376x576), so you have no control over the rendering size at all.

Since only one picture was rendered when you chose Automatic in the render menu, I'd advise you to check the first and last frame settings. Perhaps they were both one, which would account for your problem. This might have happened because you'd previously saved the scene, but for some reason hadn't set up the frame count correctly. Otherwise there should be no problem here at all.

I'm not exactly sure why DPaint IV AGA wouldn't load your RGB images correctly, since you don't give me much to go on, but it's true that it can appear finicky at times. One thing to check when you are presented with the "Can't animate with page bigger than screen" error message is that your Page Size (under the Picture menu bar) actually corresponds with the image size you are loading. Using 320x256 HAM versions of RGB images saved from my test animation above, I tried loading them into DPaint to build an anim. As the first frame loaded I was asked if I wanted to change the screen to 320x512x4,096, which I did. Attempting to load frames after this gave me the 'size' error mentioned above.

To get round this, I first corrected the Screen Format to 320x256 HAM, and then had to change the Page Size from 320x512 to 320x256. I could then load the sequence of frames without trouble. Why this should happen I have no idea, since several other programs assured me the images were 320x256 HAM, but DPaint was having none of it until I carried out the procedures outlined above. Maybe it's a bug? Take heart, however – you will get it working in the end.

The Passport 4000 is a stand-alone video converter, primarily aimed at NTSC-PAL-NTSC transcoding, which connects to the Video Toaster (or other video source). While the Passport may well be compatible with the A1200, the Video Toaster certainly isn't, since it requires a video slot for installation, something which the A1200 doesn't have. You'll need a 'big box' Amiga to install the Toaster, which is still an NTSC-only device and therefore not particularly useful as a video mixer and caption generator in this country, which is what I guess you would be considering using it for, since you already have stand-alone LightWave.

While the Passport tries hard to do a good job of converting NTSC to PAL there are still inherent problems caused by having to drop five frames per second to convert 30fps NTSC to 25fps PAL, and there's also the need to duplicate some of the NTSC image's 525 lines to make up a full PAL 625-line screen. So, the results can never be quite as good as direct PAL output, no matter what the image quality is like. Additionally, if you wish to use the Toaster for mixing PAL video, it must first be converted to NTSC (losing 100 lines and adding five frames per second) before mixing, and then converted back to PAL (gaining 100 lines and losing 5fps), further increasing the transcoding losses. If you're seriously considering doing this I'd make sure that you see a system in operation and judge its quality before you lay out large amounts of cash. Alternatively, there are now excellent digital video mixers (such as the Videonics MX1 or Panasonic MX12) on the market which, though not up to broadcast standard, cost less than a Passport 4000, so this might be a better solution for you. **Gary**

AMOS colour clash

Coding

I recently decided to convert a game I wrote for the C64 to AMOS for the Amiga. All went well until producing a replica of the board and pieces. I used a paint program to create the board and the sprite editor that comes with AMOS (1.34) to create the bobs.

Everything looked good until I tried to combine them with a small test program. At first the bobs just appeared as faint shadows. Re-saving them in the same resolution as the screen seemed to cure this. Why?

But now when the bob passes over certain coloured areas odd colours tear right across the screen to the right. I found that by using only the first 16 colours for the board this problem was eliminated. Also, I think setting "get colours from drawing" may have helped. Why is this? The bobs and pictures were created in 64 colour low-res. Can you help?

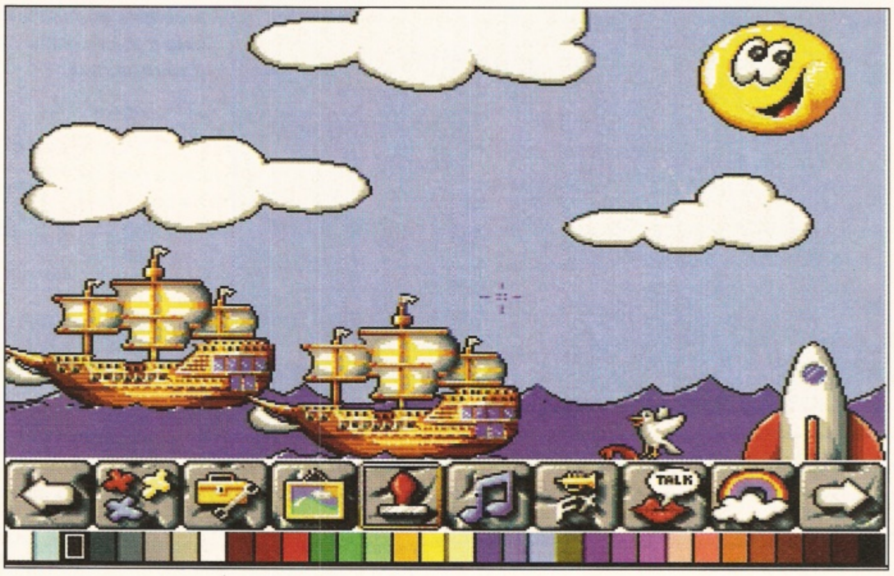
Stephen G. Gaunt
Huddersfield

Although you're a bit sparse on the information, I think I know what your problem is. When you use Extra Half Bright mode, which gives you 64 colours, the Amiga actually produces 32 colours, and a second 32, dimmed, colours. This might explain your shadow effect – your bobs are being displayed in the darker colours. I strongly recommend that you use no more than 32 colours for your graphics, because this makes things a lot more manageable.

I'm not sure what you mean when you talk about the bobs being in different resolutions to the screen. Only hardware sprites, not bobs, which are created by AMOS, can be in different resolutions to the screen, because they are overlayed on top, like a cartoon cell on top of its background image.

Here's what I recommend. Keep your bobs in 32 colours. Create your background screen using the same 32 colours as your bobs. I can't imagine why Spectra colour would cause odd effects, since it is a pretty standard art package.

More importantly, you might have set your screen resolution wrong. At the start of your AMOS program, perform a SCREEN CLOSE, then do a SCREEN OPEN, setting the colours to 32. If you have 32-colour bobs as well, everything will then work in unison. You will probably also want to DOUBLE BUFFER your screen, to prevent any corruption caused by moving bobs. **Nick**



Problems with C

Coding

I have been trying to learn the C programming language for about four months now. I own both the Complete Amiga C and Paul Overaa's Mastering Amiga C books, and until now everything has been going fine. I have now got to the point where I need to start opening the system libraries to access their functions. Some examples open a library, by declaring a pointer to an IntuitionBase structure and then passing the pointer returned by OpenLibrary() to it, e.g.:

```
struct IntuitionBase *IntuitionBase;
IntuitionBase = OpenLibrary(...);
```

Other, particularly newer documentation (such as the AS tutorials) declare a pointer to a Library

▶ 50

Coverdisk trauma

Beginners

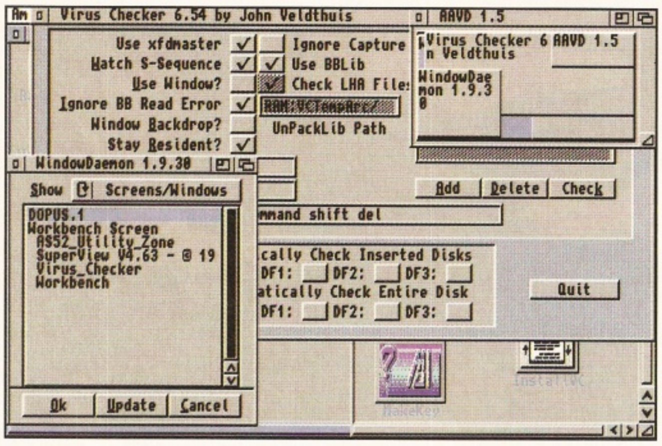
I am experiencing difficulty in using the Utility Zone of the August 1995 Shopper Coverdisk. Here's a list of my problems:
1. Virus Checker: Unable to open your tool.
2. Drawer Size: Will not load.
3. AAVD: Unable to open your tool c:Installer.
4. Screen in Window: Can't get it to work.
5. Window Daemon: You require matrix.library.
6. LazyBench: Can't find Envarc:lazybench/lazybench.menu.

Nigel Edwards
Cheam, Surrey

There is a very easy solution to every single problem you've listed. Read the documentation for the programs. This is the most frequent cause of people's problems with programs. If you do find that a program doesn't work instantly, you'll more than likely find the answer in the docs, which is a quicker solution than waiting for us to answer it in the magazine. If the docs don't help, then we're more than happy to try and sort it out.

When you de-archive the programs from the Coverdisks, you haven't fully installed them. Many files make use of shared libraries or fonts, which don't come with Workbench but with the programs. You must install these to use the programs.

Virus Checker and AAVD want the Installer utility, that is a standard installer which installation scripts use. You can get it from a PD library and it will make your life much easier when installing programs. Drawer Size has loaded – you'll find it has added an item to your Tools menu on Workbench. Screen in Window runs from the CLI and is complicated, so read the documentation for the syntax it uses. Window Daemon requires the matrix library – open the directory, and show all files from the Window menu on WB. Copy the matrix.library to your System library drawer (sys:libs/ or libs:). LazyBench requires a text file list to be created and copied to Envarc:, you can do it from the program – read the docs. As you can see, the Amiga has told you the solution every time. I could go into more detail, but the documentation for the programs gives more extensive instructions than I could ever do here. ***Dave***



Getting all the programs working is easy if you read the documentation.

structure and then pass the pointer returned to OpenLibrary to it, e.g.:

```
struct Library *IntuitionBase;
IntuitionBase = OpenLibrary(…);
```

This may seem like a really small point to fuss over, but I really can't see how the two could produce the same results since the Library and IntuitionBase structures are radically different. I would rather choose one style and stick to it, but am unable to, in case it is something to do with 1.3 compatibility. Please can you help?

Stephen Brookes
Chesterfield, Derbyshire.

Look again at the IntuitionBase structure, because it contains a Library structure at the start:

```
/* This structure is strictly READ ONLY */
struct IntuitionBase
{
    struct Library LibNode;
    // rest of structure…
```

All libraries in the Amiga can be opened with the `struct Library *` *approach, because they all have this structure in common with them. Other libraries have other information connected with them, and they store this information in an extension to the Library structure. If you open a library with such an extension as this by using pointers to* `struct Library`*'s, then you will not be able to directly access this information. (You can cheat, by casting it, but that's a complicated feature I'll leave for a future C tutorial!). IntuitionBase is simply a struct Library with a whole bunch of intuition.library related stuff after it. If you use struct IntuitionBase then you will be able to access this. Here's the simple rule:*

"Always use `struct Library *` *unless you are going to be wanting to access information in the Library base which is stored after the struct Library." For most simple Amiga applications, you won't be wanting to use this information.* ***Toby***

Deja vu revisited

Video

I am new to the world of computers. I have an Amiga 1200 with 4Mb of RAM fitted and an Amitek second drive. I have recently bought, and really enjoyed, your Amiga Desktop Video book, which I have found to be very helpful. I am now titling my own home videos using Deluxe Paint IV and Dot Matrix Scroller.

In Chapter 7 of your book you mention a Licenceware program called Video Lab. Whilst I have tried a lot of the software houses which advertise in magazines, I still have not been able to obtain a copy. The nearest I have come to success is being told that a company in Wigan called Dae Jar Vue stocks it, but I cannot find out their address. Could you help me track down this program?

Geoff Travis
St Helens, Merseyside

First of all, thanks for the kind comments about my book, I'm very glad it's been of help to you!

So far as Video Lab goes, the name of the company is actually Déjà Vu, but you were pretty close. I think I read something about some changes at Déjà Vu a while ago, but I've searched my back issues and can't find the item. I did, however, find an old address for Déjà Vu, though I'm not certain whether it is still current. Here it is: Déjà Vu, 7 Hollinbrook, Beech Hill, Wigan, WN6 7SG.

If you don't have any success tracking down Video Lab you could do a lot worse than to buy a copy of Alternative Image's Scroller2, or find a copy from a Coverdisk. You can contact Alternative Image on ☎ 0116 244 0041. ***Gary***

Problems crunching

Coding

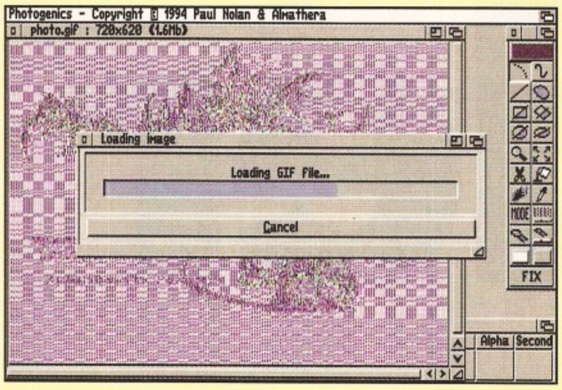
I have two Spectrum emulators, one of which is compressed with an unknown cruncher. I have written a decruncher in C, which uses a main C module to do the preliminaries, and then calls a function called `ProcessFile()` which is an assembler module stolen from Turbo2. Turbo2 is a decruncher which does not work on anything other than an Amiga fitted with a version 1.2 ROM.

My problem is this: the program works to the extent that the crunched file is overwritten with a correctly decrunched version, but when we fall off the end of the `main()` function, instead of returning to the OS in a gentlemanly manner, it gurus (odd address error). Running under CodeProbe, I can see no sign of distress before the very last step, which suggests to me that there is nothing wrong with my `ProcessFile()` function. On the other hand, if I substitute a dummy version of the `ProcessFile()` which returns immediately without doing anything, the program terminates normally. This does point to something wrong in `ProcessFile()`.

N. Mackay
Hastings, E. Sussex

Ah, the days of the Spectrum, when game play wasn't an optional extra! Mind you, I don't really miss them that much. Nasty problem you have there. Most stubborn bugs like this are not caused by the code, they can often be the result of something else happening much earlier. In your case, I would lay money on it being something to do with your interface between C and Assembler. One of the first things I would try, is wrapping the Assembler call through another hook which does something like this:

```
_ProcessFile:     movem.l  d0-d7/a0-a6, -(sp)
;
; -- Now call the ProcessFile function…
```



Photogenics, extensively covered in our tutorials from AS issue 48 to issue 54, managed to open all the GIF types we threw at it, but C. Ward has found otherwise.

```
	jsr		_RealProcessFile
	movem.l		(sp)+,d0-d7/a0-a6
	rts
;
_RealProcessFile:
;	>>Your decruncher goes right here >>
	rts
```

Some C compilers rely on certain registers containing certain values, and Assembler routines which tamper with them can cause undesired problems later on down the line, when the compiler tries to clean things up.

It is the `ProcessFile()` *function which has the bug. I am not sure if you have access to the source for your decruncher routine. If so, I would check that it cleanly frees any resources it uses in its decrunch, and that it does not overwrite memory which it shouldn't. Another thing to look at is how much stack it requires to run. Some Assembler programs (especially those originally created by C) use a lot of stack. This is an easy one to check, before running your program from a Shell window, type...*

```
stack 65536
```

...and then run it. This creates a massive 64K stack for the program (which is probably larger than the program itself) and removes that as a possible problem.

I hope you find the bug. ***Toby***

Sticky GIF file

Program Software

I have a problem with Photogenics v1.2 and a GIF image. When I try to load the file the GIF loader starts, then an info window appears saying "Error in loading file". On the other hand, ImageStudio v1.5 loads the same GIF image with no problems.

I even tried running the Photogenics loader from disk (in case there was a problem with my disk expander on the hard drive), but again I experienced no success.

I don't think my Amiga 1200 (with 6Mb of RAM and GVP 1230 accelerator) is the problem, so maybe you can help?

Mr C. J. Ward
Mickleover, Derby

I spoke to Almathera about your problem, since I suspected that because there are two basic kinds of GIF file (GIF87 and GIF89), your image might be of a format that Photogenics v1.2 doesn't currently support.

I was assured that v1.2 does indeed support both kinds of GIF, although there are some slight (and apparently rare) variations which can cause problems. One, where a comment field is included in the file, was fixed for version 1.2, but the others might still pose a problem in the event that you do indeed have such a GIF image.

Another possibility is that your GIF file might be corrupt in such a way that ImageStudio can still make sense of it, but Photogenics can't.

Almathera suggest that you send the offending file to them so they can examine it and try to find a solution to your problem.

Until then, use ImageStudio to load the image, save it as an IFF file and load it into Photogenics for further processing. ***Gary*** ■

Fill in and get answers to your questions — AS**55**

If you send in a question for the Amiga Answers experts, please fill in and include the form below (or a photocopy if you don't want to cut up your magazine). If you have several questions in different fields that should be addressed to more than one of our experts, please send in your queries on separate forms.

Send your form and question to: Amiga Answers, Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW.

Name: ____________________

Address: ____________________

____

____________________ **Post code** ____________

Your machine:

☐ **A500** ☐ **A500 Plus** ☐ **A600** ☐ **A1000**
☐ **A1200** ☐ **A1500** ☐ **A2000** ☐ **A3000**
☐ **A4000**

Approximate age of machine: ____________________

Kickstart version (displayed at the "insert Workbench" prompt)

☐ **1.2** ☐ **1.3** ☐ **2.x** ☐ **3.x**

Workbench revision (written on the Workbench disk)

☐ **1.2** ☐ **1.3** ☐ **1.3.2** ☐ **2.04/2.05**
☐ **2.1** ☐ **3.0**

PCB revision (if known). Do not take your machine apart just to look for this! ____________

Total memory fitted (see AVAIL in Shell for Workbench 1.3) ______

Chip memory available (see AVAIL in Shell) ____________

Agnus chip (if known) ____________________

Extra drive #1 (3.5in/5.25in) as DF : Manufacturer ____________

Extra drive #2 (3.5in/5.25in) as DF : Manufacturer ____________

Hard disk: ____________ **Mb as DH** ____________**:**

Manufacturer ____________

Extra RAM fitted – type, size in Mb and manufacturer ____________

Please indicate details of any other hardware which could help us to answer your question:

____

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Tools of the trade

Musicians need music. Writers need books. Bartenders need beer. Animators need all these things, in addition to lots of expensive equipment. Babylon 5's **Mojo** *takes you into the world of 3D.*



Main pic. ***The finished Starfury fighter – perhaps the best example one could have of how important 2D painting skills are – without them, even the best 3D artist isn't much use! On an 040 Amiga, this image took 12 minutes, 47 seconds to render, with low anti-aliasing.***

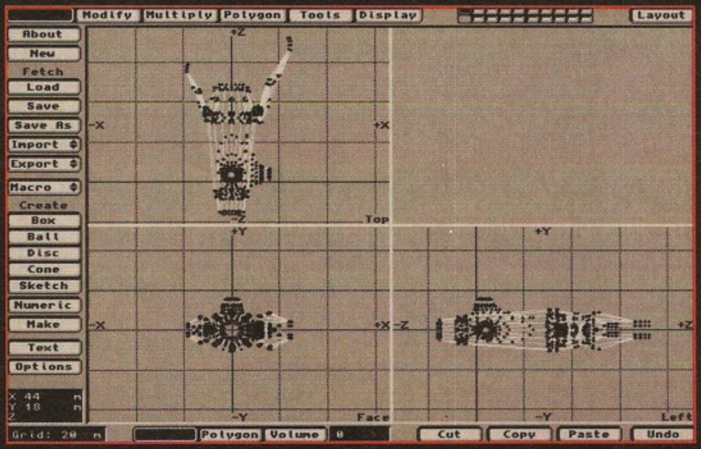


Figure 1. ***A 640x480 Modeller screen, featuring a Starfury engine from the TV series, Babylon 5.***

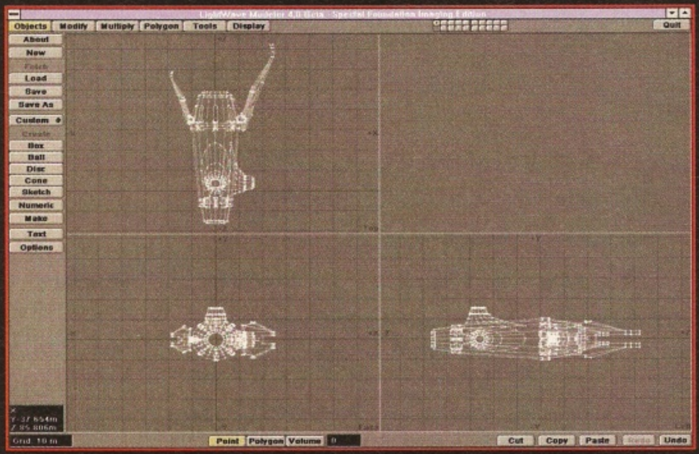


Figure 2. ***The same screen as left in 1,024x768 resolution. Notice how the geometry lines are finer, giving greater clarity to detail.***

Animation requires dedication. These next two pages are for people who want to sleep with their animation software; people who dream of making movies; people who have a job and can afford all the stuff I'm going to recommend. Or, of course, people who are fascinated by 3D animation.

In the beginning, there was the PC... then the Mac... then the Amiga... then the animation! When the Amiga was conceived, America was at the height of a video game craze. Jay Minor, the inventor of the C64 and 128, wanted to design the ultimate game machine to capitalise on this phenomenon. The new machine needed to display lots of colours in high resolution, be capable of smooth animation and be video friendly so it could easily wire into any TV. Thus, the Amiga was born.

But the game boom was subsiding, so a disk drive and keyboard were hastily added to transform the Amiga from a toy into a computer. With any luck, it would sell.

A few bright companies saw the potential for much more in this graphics powerhouse than another all-purpose computer, and slowly started developing software that took advantage of the Amiga's unique capabilities. Soon the Amiga had a devoted following of artists who knew it was the best machine for their needs.

A few of these artists were also programmers and began developing 3D animation software. Previously, this kind of application was only available on super high-end graphics platforms, but due to the Amiga's graphics-friendly environment, 3D was finally possible on a consumer machine.

What began with the unbelievably complex Sculpt-Animate 3D, eventually ended with the release of NewTek's Video Toaster (with LightWave), marking the apex of Amiga video and animation tools. Although there have been many other 3D packages available (most notably Imagine), LightWave was always considered the best and easiest to learn. Now that it has been separated from its NTSC dongle (the Video Toaster), it will be available to many new users who will tackle 3D for the first time.

Lesson one

As unprofessional as it may seem to be so biased, I cannot recommend anyone go near anything other than LightWave. I don't care how cheaply you can buy a competing product, no one else even comes close. What more do you need to know other than this is the software responsible for the graphics of Babylon 5, SeaQuest DSV and much of Star Trek? In fact, I'm not even going to mention the other products – simply scrape up the cash for LightWave – you'll be 100 per cent happy with it. True, you will occasionally find some nutter who prefers another package, but be warned – these are the same people who prefer Bovril over beer and Benny Hill over Black Adder.

As much as I wish I could say that an Amiga and LightWave is all you need, I cannot. Although this pair is the heart of a good set-up, 3D animation does require support in other areas, notably 2D painting.

The Babylon 5 animation station

If you happened to go to work one morning and wound up at Foundation Imaging (the makers of Babylon 5's special effects), you'd find a pretty nifty machine on your desk.

Start with a 100MHz Pentium in a Dell-manufactured mini-tower case. Add to that a 1Gb hard drive, 64Mb of RAM and a quad-speed CD-ROM. Just for looks, you get the Imagine 128-bit video card (by Number Nine) with 4Mb of V-RAM (display memory) and a CTX 17-inch monitor. For good measure, a Wacom graphics tablet has been added, as well as the DPS Personal Animation Recorder (PAR board) to play back 24-bit animation at 30 frames a second. Oh yeah, and a Nerf gun with lots of yellow, sponge bullets.

A system like this would set you back around $7,000 (not including software). Add a few hundred more if you want the latest 133 or 150MHz Pentium. Sound like a lot? Not when you consider the cost of a 'high-end' 3D workstation made by Silicon Graphics, the type used on feature films such as Jurrasic Park. These cost around $50,000 (not including the $20,000 software). Sure, these machines are nice, but with the performance offered by LightWave and a cheap home computer, no one needs to spend an extra $60,000 to get high-quality effects. In fact, more than a few insiders predict that these monstrous workstations may soon go the way of the T-rex unless they slim down their prices.

"3D rendering is the **toughest** job silicon can have thrown at it."

The secret to the realistic-looking models on Babylon 5 comes from their painted, 2D texture maps, which transform a dull, grey blob into a living, breathing spaceship. Consider what a store-bought model kit looks like before it is painted and decals are applied. Naff. The same rules apply to computer models – they must be painted before they look good. At the moment, the painting cannot be performed directly on the 3D model, so for each surface 'maps' must be created in a paint package. Ironically, the importance of 2D paint skills is often overlooked by beginning 3D artists, yet it is, without doubt, one of the keys to good 3D animation.

Make sure you get a good paint program. Not just a passable one, but a damn fine one. Several good packages include the new TV Paint 3, Personal Paint and Brilliance (see AS53, September, for a review of paint software). Before buying, try them out in a shop or see if the software companies responsible offer demo versions. You want to be sure you're buying the software that feels most comfortable to you. In addition to painting, you'll need a good image manipulation/conversion program such as ImageFX or Art Department Professional, which offer special features indispensable to the 3D artist.

Once you've got good animation, paint and image manipulation software, everything else is icing on the cake. The Amiga has a multitude of support programs and utilities that make animating easier, but these can be bought after you get familiar with the basics. Next, you need to make sure your hardware is up to the test your new 3D software is going to give it.

The hard stuff

3D rendering (the process a computer goes through when drawing animation frames) is the toughest job silicon can have flung at it. If you buy a new machine for your animation career, do not skimp. Buy the best and the fastest you can. Rendering frames can take (on a fast machine) anywhere from five minutes to an hour a piece and, at 30 frames a second, this adds up very, very quickly. Trust me – save now, pay later – when you're trying to get a project done and

56

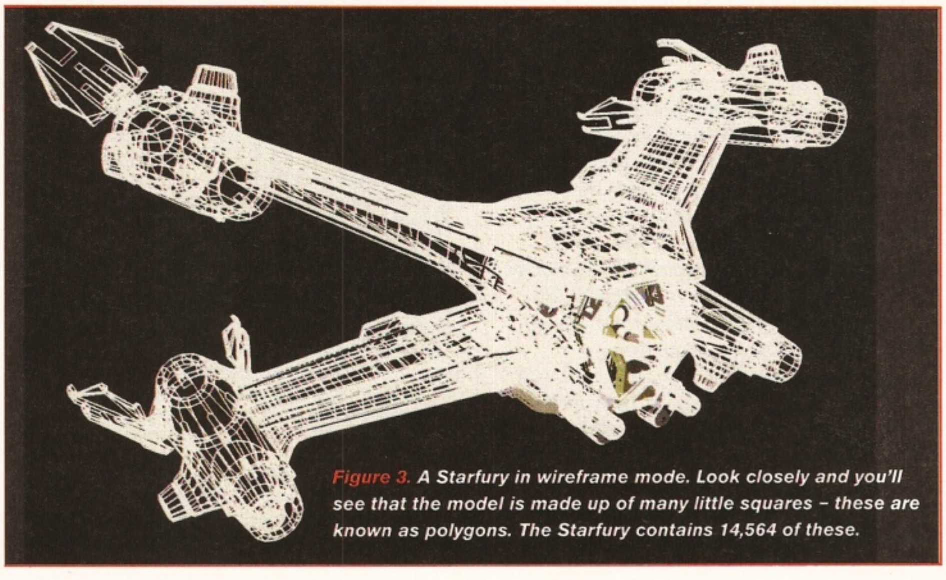


Figure 3. A Starfury in wireframe mode. Look closely and you'll see that the model is made up of many little squares – these are known as polygons. The Starfury contains 14,564 of these.

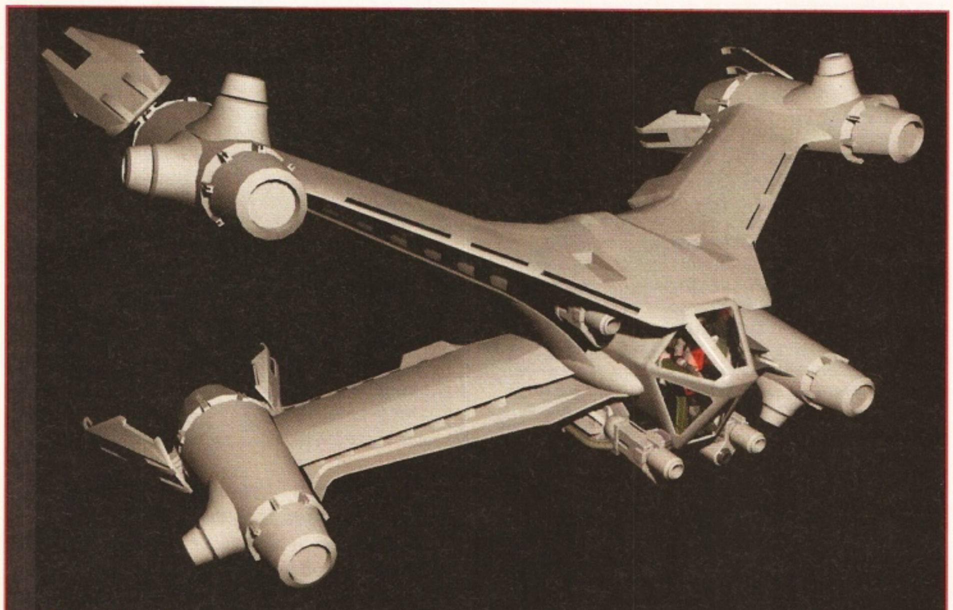


Figure 4. ***The Starfury, rendered without any texture maps ('decals' painted in a 2D paint package). Without mapping, the Starfury looks fairly dull – much like an unpainted model kit.***

your frames are taking an eternity, you'll curse yourself for not spending the extra few hundred quid on a faster machine. A lot of you reading this probably have A1200s, but let's face it – nice as it is, the machine ain't no racehorse. The slow processor, low memory and lack of serious expansion abilities make it about as useful in 3D as pants in a brothel. So, if you are planning to base your animation facility around a 1200, I suggest you seriously beef it up. Better still, sell it and put the cash towards a new 4000.

If you insist on staying with your 1200, at least stick in a good accelerator, such as a Blizzard 030 board. It allows you to add more RAM (9Mb is the minimum for LightWave) and an FPU (a maths co-processor needed to run 3D software). Keep in mind, however, that even a 50MHz 030 is going to seem intolerably slow. In addition, with less than 16Mb of RAM, no serious 3D work is going to be possible. All this adds up to buying an A4000.

Speaking of the 4000, there are several to choose from. The first choice of many readers will be a new Escom A4000 (hopefully on shelves soon). The advantage of going with the new Amigas are clear – they should be 060-based, which will provide speed somewhere in the neighbourhood of a 90Mhz Pentium (about three to five times faster than the classic 040 4000). If you have the option of buying one of these older machines at a good price, remember fast is best. Keep in mind that 060 boards are now available for the standard 4000, and all reports so far say that they are worth the money. Before deciding, I recommend waiting for the Escom machines to hit the streets and seeing what everyone has to say about them…

RAM is very important. I wouldn't start with anything less than 16Mb, with 32 recommended for the long haul. Keep in mind that with each rendered frame averaging about 500K, disk space may be at a premium. Try to start with a minimum of 500Mb. A removable media drive will alleviate the storage problem and is probably a necessity in the long run, so look into a SyQuest or the new Iomega Zip drive, which holds 100Mb per cartridge at a very good price.

Looking good

Also recommended, if not a flat out necessity, is a high resolution, 24-bit display board. The world has gone 24-bit crazy and there's just no match for 16 million. After being so used to a 13-inch monitor and 640x480 resolutions, I once felt strongly that this was all I would ever find necessary. Why spend the extra money on high-resolution display cards and 17-inch monitors when I have no trouble seeing what I'm doing? Well, images are brighter and crisper. More importantly, 3D work gets a particular boon in high resolutions because of the complex imagery the computer must constantly display.

3D models are made from hundreds (sometimes thousands) of dots and lines, representing the many polygons needed to make up an object. The computer must actually display a model such as Babylon 5 not as a single object, but as 100,000 small squares in the *shape* of Babylon 5. An image consisting of so many lines in such a small area can quickly lose definition and become little more than a grey blob. With a high resolution display these lines have more 'room' in which to be drawn, hence they keep their visual integrity better. This is especially helpful when modelling objects, constantly manipulating all those little boxes – it sure makes life easier when you can see them!

The Cybervision64 and Picasso seem to be good graphics boards offering a variety of resolutions. Before you buy, check and see if the board can run LightWave in a higher resolution, in addition to displaying finished images.

Larger monitors can be pricey, so you may want to first pick up the board, for the extra colour depth, and leave a monitor for later. Check with display card manufacturers as to the monitors that work with their product – you want to be sure your choices won't be limited!

The bottom line

Many of you are probably reading this with only a passing interest, not quite ready to make the financial and time-consuming plunge needed for serious 3D. That's OK. The Amiga is modular enough to grow with you. First off, you'll need to buy LightWave and see if you even *like* 3D animation. Believe me, it's not for everyone.

Although people talk about how easy LightWave is, this is only by comparison to other animation software, all of which are inherently difficult to get the hang of. In the end, there really is no such thing as easy – just easi*er*. Learning on an A1200 will be a little slower, but is by all means feasible. There's nothing wrong with going this way and gearing up with new hardware as you feel you are getting more serious about 3D. Who knows? Maybe, one day, you'll end up like me – overworked, underpaid.

Next month I'll look at how to view animations, various ways of getting them on to videotape and a mass of other high-tech stuff that only the nerdiest of readers will enjoy! ■

The other machine (boo, hiss)

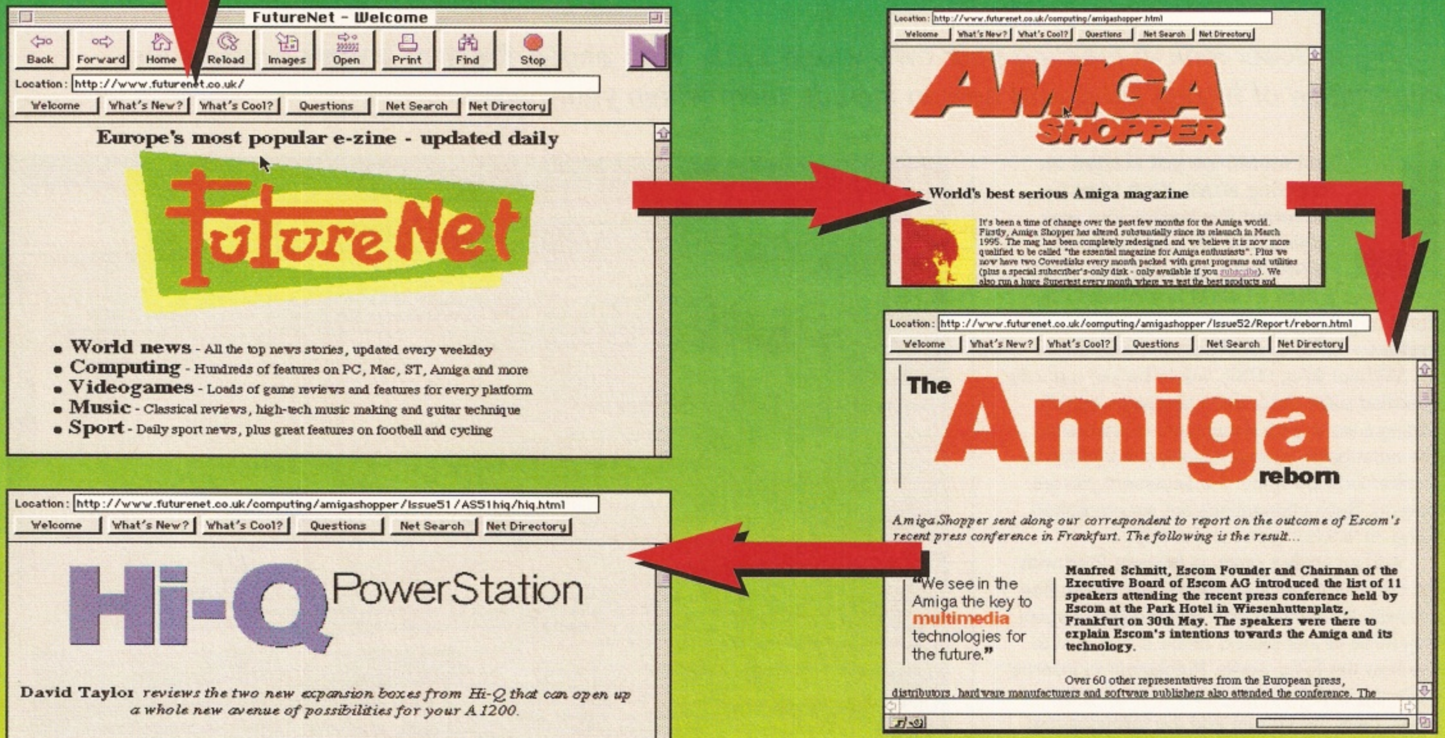
I know it's hard to stomach, but using LightWave on a PC rather than an Amiga can make sense. They are faster, cheaper and offer a much more diverse landscape of hardware and software. While the 060 is the apex of Amiga speed, it's rival, the 90MHz Pentium, is at the low-end of the PC speed spectrum. A used (and really cheap, I might add) 486/66 will out-perform its counterpart, the standard 040 4000. At the time of writing, the 150MHz Pentium has just been released, with the next generation P6 machines just around the corner (running at least six times the speed of an 060). If rendering power is important to you (and it is), it's hard to ignore the PC.

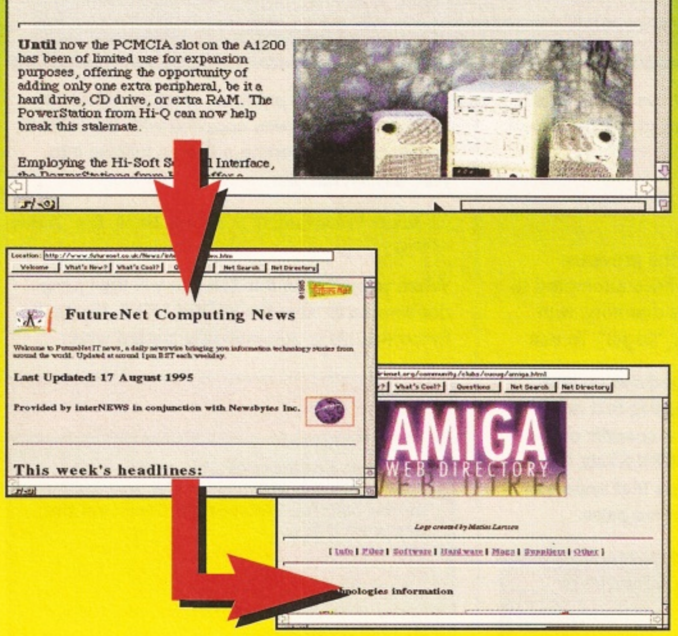
PC's aren't as efficient as Amigas, so you tend to need more of everything in order to get the old boy to do the same tricks – RAM, disk space and display hardware. Although getting a PC up to speed may seem like an expensive burden, it's not. Because of the sheer volume and variety of items sold, PC products tend to be much, much cheaper. In the end, you'll spend about the same (or less) on a really good PC than a comparable Amiga (keep in mind that in areas such as speed the Amiga cannot match a PC at any price).

On the software side, a very important difference between PC and Amiga LightWave will be the PC's future use of plug-ins. These allow separate programs to become interlinked on the PC, turning the 'host' program and its plug-in branches into one, big application. Various companies and software engineers are preparing special programs made to interface with LightWave in this way, and promise to introduce some new and powerful tools to the already formidable arsenal. Although some of these may find their way to the Amiga as stand-alone programs, in all likelihood, most will not.

As difficult as it may be, changing platforms could make sense to the serious animator. In the US, where the Amiga market has all but disappeared, many animators have begrudgingly made the switch. Escom's handling of the Amiga will, no doubt, make the choice clearer for Europe. Watch this space!

Now Amiga Shopper is on-line





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Internet serving

Part 3

Taking a closer look at creating your own World Wide Web pages, **Darren Irvine** *explains the importance of having links, and how to include them within your pages.*

Last month we got started on creating HTML Web pages – covering the basics like text styles, the various forms of HTML lists, and images. Now we'll take a look at what is perhaps the most important feature of any hypertext system – links to other pages and sites.

Without links, HTML would be just a poorly-specified page description language. Luckily, adding links to your documents is dead easy. The most basic form of hypertext link jumps to another location within the document you are viewing. Such connections are accomplished using an 'anchor' point and a 'link'.

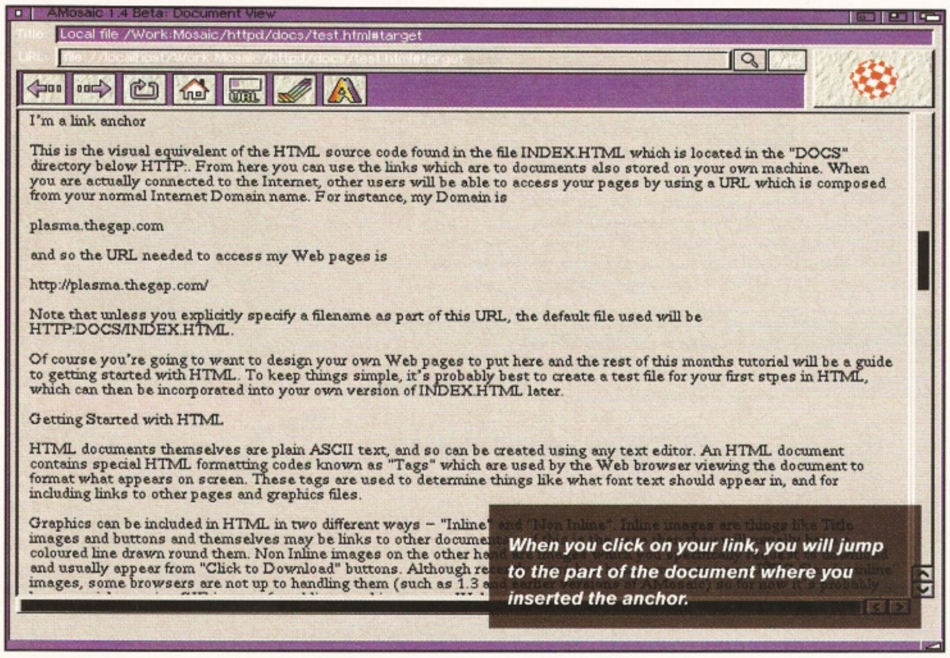
Add an anchor point as follows: Start with the document that you created last month (the one with the picture) and import a fairly largish (say three or four pages) piece of text, just to see how the thing works. Remember to insert a
 tag anywhere you want to force a line break. Near the bottom add the following tag:

```
<a name="target"> I'm a link anchor</a>
```

Somewhere else in the same document, near the start, add a link to the anchor that you have just created as follows:

```
<a href="#target"> Click me to jump to the bottom"</a>
```

The hash (#) sign here is important – it designates that the link is internal to the current document. To indicate that something might happen if you click on it, the text added between the tags is highlighted in a different colour.



When you click on your link, you will jump to the part of the document where you inserted the anchor.

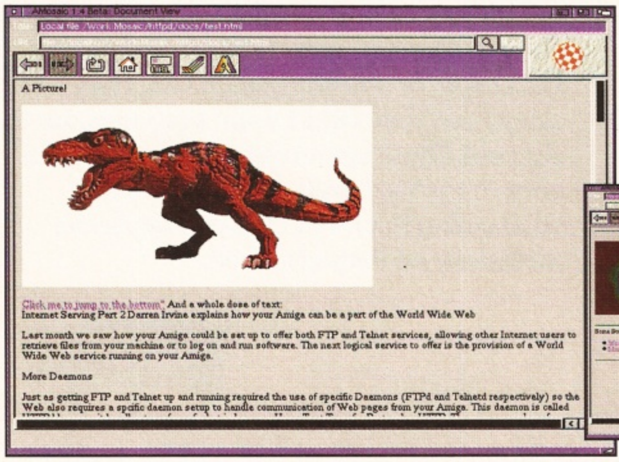
Click on the link that you have created, and you should be taken to the part of the document where you inserted the anchor.

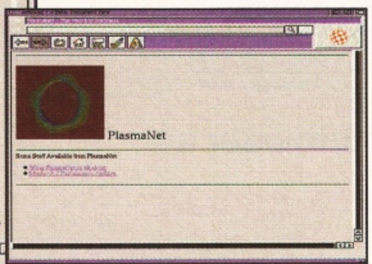
External links

If you had left out the hash in the previous example, your browser would have attempted to look for a file in your http:docs directory, with the same name as the link, i.e. "target". To see how this works in practice, create a link to the INDEX file which was supplied with the HTTPD distribution by inserting a line as follows into your test HTML file:

```
<a href="index.html"> Click here for Index
</a><p>
```

When you click on this link you will then jump documents to view the INDEX.HTML file itself. Since this file is automatically loaded when





Left: With a good link up and running, the linking text is highlighted in a specific colour. Below: The INDEX.HTML file is the default page that appears, usually a Welcome page.

Finding out more

There are a number of sites on the Web itself that have plenty of useful information for the budding Web wizard. Check out the following URLs:

University of Washington Web Developers Page:

http://www.uwtc.washington.edu/Computing/WWW/UWWeb.html

Netscape Home Page – although AMosaic doesn't yet support the extra HTML codes handled by Netscape, this page does have some useful links to HTML design resources:

http://www.mcom.com

someone first browses your machine without specifically entering an HTML filename, it is a good idea to change its contents to something suitable, like a Welcome page, for example.

Links to other sites

Of course, there's no reason why the links contained in your documents must be to other HTML files on your own machine – you can just as easily add a link to a site anywhere else on the Internet. For instance, if you wanted to add a link to the Yahoo search site, include a line similar to the following in your HTML document:

```
<a href="http://www.yahoo.com">Click here
to link to Yahoo</a>
```

Now when you click on this link (providing you are actually connected to the Internet) you'll move straight from your local pages to Yahoo. Similarly, if you wanted to add a link to your favourite gopher site, you would include a line like this:

```
<a href="gopher://gopher.panix.com">Click
here for Panix</a>
```

Graphical links

As well as using a descriptive piece of text to form a link, it is also possible to link to another document by clicking on a graphic image.

Put the image you wish to use as a link in the http:docs directory, as if it were a normal Inline graphics image, and create a new HTML file with the following text (in this example, the image file that I am using is called "back.gif", and is an image from the standard httpd distribution set – if you are using a different file, substitute the appropriate text in this example. Note also that I've added the link to my 'Beaker' Muppet character page so you can see what changes adding a graphic link makes)

```
<html>

<a href="index.html"><img src="back.gi
f"></a>Return to

</html>
```

This is quite a common example, with clicking on the 'back' image taking the user back to the 'index' home page.

Interfacing with other Internet applications

The eagle-eyed among you may have spotted the page on my machine, with the picture of Beaker (see top right picture), contained a reference to my FTP area. If you followed part 1 of this series and got your FTP server up and running, there is no reason why you can't make your files available via the Web, too. In fact, if you have managed to get incoming Telnet operations going, or even Finger, then you can link these facilities into your Web pages, too.

In these cases, you must specify the full URL of your FTP or Telnet site respectively, as if it where a separate site. My Amiga's host name is "plasma.thegap.com" and you should, of course, subsitute your own machine name for mine in the following examples (unless you actually want to link to my machine – not that I'm encouraging this, since I usually disable incoming FTP and Telnet sessions).

Linking to FTP server:

```
<a href="ftp://plasma.thegap.com">Click
for FTP</a>
```

Linking to Telnet:

```
<a href="telnet://plasma.thegap.com">Click
for Telnet</a>
```

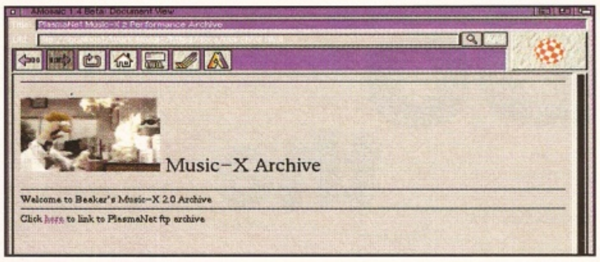
Etc. etc.

Note that with the Telnet option, if you have set up your Telnet service to use any port other than the Telnet default, you may have to specify the Telnet port as part of the URL. For example, if you have set up incoming Telnets to operate on port 5000, the above line should read:

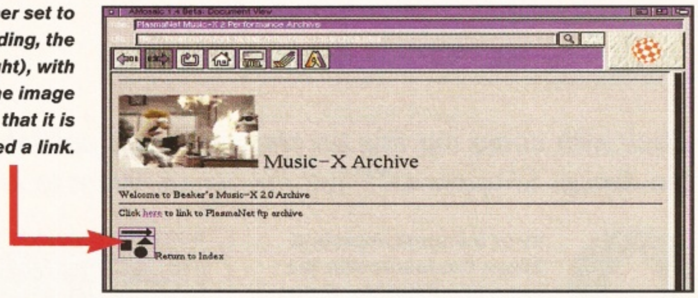
```
<a href="telnet://plasma.thegap.com:50
00">Click for Telnet</a>
```

The examples I have given go some way to prove what a powerful and flexible machine for Internet use the Amiga is. Just about everything that can be accomplished on industry-standard Unix systems can be equally well implemented on an A1200, and in almost all cases the Amiga is much easier to configure. Next month we're going to discuss setting up and using AmiTCP and AMosaic. ■

Clicking on links takes you deeper and deeper within the document. Of course, you can also link to other Web sites, not just your own.



If you have your browser set to delay Inline image loading, the link will look like this (right), with an arrow as part of the image icon, indicating that it is indeed a link.



Tips for Web design

Let's be honest here – the best way to get your pages looking smart is to take some existing pages that you fancy and rip them off – save the pages in HTML format and edit them to include your own text and graphics, while keeping the feel of the original.

Try to make your pages as well organised as possible – just because you know where a particular link is likely to go doesn't mean someone browsing from the other side of the world will be equally sure.

If you indent your pages to be viewed by users with slow modem links, or in fact if you yourself are connected to the Net via a slow modem, try to go easy on graphics files, because overuse can make downloading a page seem to take forever.

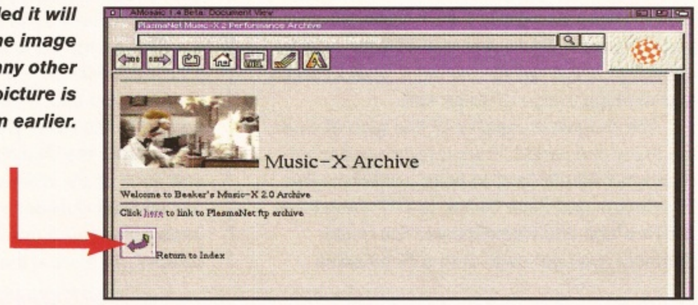
Just because HTML supports a wide variety of text styles doesn't mean that you should feel obliged to use them all – multiple text styles per page simply looks amateurish and tacky.

One tip for making your pages look professionally produced is to draw the surrounds of the pictures you use in the neutral grey colour that most Web browsers display – a bit of experimentation is required.

In a similar way to not using lots of different text styles, if you are using a small graphic image as a list organiser or page break, try to use the same one a few times, rather than a different image for each indent etc. – the same image not only looks smarter, but since most Web browsers cache the pictures displayed, the image only has to be downloaded once no matter how many times you use it.

Of course, these are just my opinion – you might me able to come up with a cracking page by deliberately ignoring all my advice!

Once the image is loaded it will look like this (right). The image still performs just like any other link, even though the picture is now different from earlier.



Part 2: Software

Do the write thing

Back with some top tips on choosing your publishing software are **Larry Hickmott** *and part two of the Amiga Shopper DTP tutorial series. Want to know which package is best for you? Then read on…*

One of the most important things I've learnt over the years in publishing, is that you can never have enough tools for the tasks you'll encounter when creating various types of documents. In this month's tutorial, I want to discuss the type of publishing software you need for DTP, concentrating on the applications used to lay out your pages.

To kick off, I want to answer one of the most frequently asked questions. This is "can I use Wordworth or Final Writer for doing a newsletter, or do I need a DTP package?" The answer isn't quite as simple as the question, but there are some guidelines you can follow depending on the type of work you do. For you to understand these guidelines, though, we need to first explore some different types of jobs and then marry them to the tools required.

Lovely letters

The most simple document to produce is a letter, a very structured document with a set format of one or more columns flowing from page to page. The elements on a letter usually consist of some text for the letter, your address, and perhaps a logo of some sort.

The programs capable of this type of work are many and varied. From a text-based word processor like Protext, to word publishers like Wordworth and Final Writer, to DTP programs like ProPage and PageStream. You could probably even get away with a Shareware program like Edword. The one you choose will depend on how complex your letters are. Simple, text-only documents can be adequately handled by Protext and programs such as Edword, but if you need to add pictures, tables, and fancy headings, then you need a program with the necessary tools for such elements.



Final Writer 3 is an example of a word publisher. As you can see from the screenshot, that doesn't mean you're restricted to only working on letters. It's just as good for doing leaflets and posters.

This brings us to probably the key point in this whole feature – making sure that whatever program you use, it must have the tools to handle all the tasks you are likely to undertake. So, analyse the documents you want to create and each of the elements in that document and ask yourself questions like 'can the program import structured drawings?', 'can it handle tables?', 'is there a thesaurus?', and so on.

To further explain the significance of this point, let's go to the other end of the difficulty spectrum and look at a multi-page document (such as a brochure) and check out a number of the tasks you're likely to meet. Unlike a letter, a brochure is a free-form type of document with no preconceived structure in the way elements are arranged on the paper. A letter, remember, is usually a single column of text with a letterhead at the top of the page and perhaps a picture or two to illustrate the words.

The structure of a brochure, meanwhile, can be anything you want it to be. The first page might be just a title, the second page two columns of text in the shape of the product you are promoting, and so on. In other words, you use the page the same as you would a blank sheet of paper, and arrange your elements in a way that suits the message you are trying to get across, rather than conform to a strict formula.

Whereas a program like Edword or Protext lets you create a simple document like a letter, to produce a brochure like that just outlined is going to need a much more flexible and powerful program. Word publishers, to a point, contain many of the tools you would need, but still lack many of the extra tools a DTP program has. Take columns of text that need to be linked, for example.

The missing link

Let's say you're designing a folded brochure with six pages. You may decide that each page is to contain two columns of text, with each

Jargon busting

DTP (DeskTop Publishing) – The creation of documents like letters, leaflets and so on, using personal computers.

Desktop printer – Describes the printer you have attached to your Amiga, as opposed to using another method of duplication like photocopying. The most common printer used is a non-PostScript printer that takes its output, in most cases, through Amiga Printer Preferences. An example would be the Hewlett-Packard DeskJet.

PostScript Printer – A normal printer requires the publishing program to create the page as a big bitmap before sending it to the printer to place on paper. A PostScript printer, meanwhile, has the publishing program describe the page to it using the PostScript language. The printer then creates a bitmap image of the page in its own memory for printing to paper.

Spread – A DTP term used to describe two pages in a magazine – or brochure – that face each other.

Word publisher – A program which is a cross between a DeskTop Publishing package and a word processor.

column varying in height to accommodate other elements on the page. To get the text flowing from one page to another, the boxes also need to be linked. At the moment, no word publisher lets you create boxes of text and then link them together. You can change the page specifications to alter the size and number of columns, but you can't treat each column independently and link it to another box on the same page, or even on a separate one.

There's more… and to help me illustrate, I want to hypothesize further on the subject of creating a multi-page document such as a newsletter or brochure. Let's say you want to create a 12-page document, and output it to your printer from your Amiga. Nothing difficult in that, is there? What could go possibly wrong?

Plenty, as I will prove. Grab three sheets of A4 paper and fold them in half. This will give you 12 A5 pages. Number each page from 1 to 12. Separate the sheets and grab the outmost one, containing pages 12, 1, 2 and 11. As you can see, the way the pages are printed is very different to the way the pages appear on-screen, where page 2 is next to page 3. The first obvious thing is that the pages are going to have to be doubled-up on-screen, on a landscape A4 page, when you create them.

Page break

The second point is that page 11 is going to have to be on the right-hand side of page 2 when you go to print. The only way to achieve this is by rearranging the pages on-screen, as if you were cut-and-pasting them on paper. That means taking all the elements for each page, grouping them, and then placing them on an A4 page in the order you want them printed. Which can be very messy, if not impossible, in some word publishers. Better equipped for this are DTP programs like PageStream or ProPage.

Here's how I do it using ProPage, to a non-PostScript printer. I create the document using six A4 landscape pages (for 12 A5 'real' pages) with all the pages next to each other as they appear when someone is reading the document – page 3 on the right of page 2 and so on. When the document is finished, I save it under a new name, group all the elements on each A5 page, and move them to the position I want them to print on the paper. In this case page 2 and page 11 would print next to each other, while page 12 would sit on the left of page 1.

It sounds messy, but because I have a PostScript printer, I can use a ProPage genie from Don Cox, called Booklet, that moves the pages around for me. If I am working on a document to be printed on a non-PostScript printer, I move each of the pages to the art-board, and then into their correct position for printing. Although working manually, it still only takes a few minutes, and you have the bonus of being able to print directly from your Amiga.

So, the type of program used for specific documents depends on what is required in their creation. The two examples, a letter and newsletter, are situated on either end of the scale of difficulty. In between are documents like posters, leaflets etc. Which program you choose for what task depends on a number of factors. If, for example, you know that one day in the future you're going to produce a newsletter, then you might be better off using your DTP package for everything – when you create your newsletter, you know the program inside-out.

I, for example, use ProPage to create most of my documents because it's the program I know best and can therefore get the job done quicker. Many will think a DTP program is a bit over the top for doing simple letters, but it's just as capable for this task as a word publisher or text editor. A DTP program is far from perfect, though. It doesn't have many of the text editing features that a word publisher does – like a thesaurus, table of contents, and tables.

Choosing your software is not easy – many give up trying to decide and end up buying a number of programs so they have every situation covered. For example, have Wordworth for documents requiring tables but ProPage for newsletters. Not the cheapest way to go, but at least you'll have a toolbox full of everything required for all kinds of document creation. ■

Larry's top five tips for using the right software

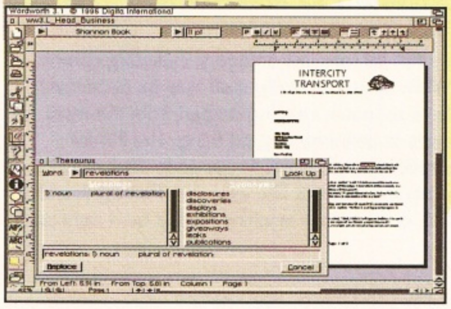
1 **Most importantly, analyse the work you do and make sure the software you choose has all the functions to take care of your specific tasks.**

2 **The most expensive program isn't always the best. Consider having several cheaper programs with a wide variety of functions, not just one expensive package.**

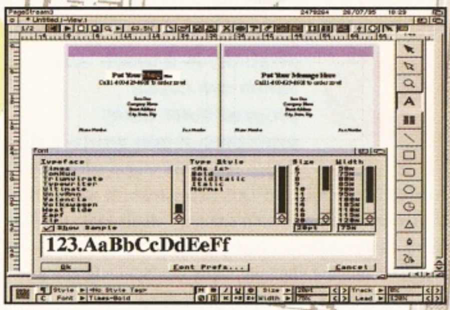
3 **Make sure you have the hardware to support your chosen application. Although Final Writer, Wordworth, ProPage, and so on will work on Amigas with 3Mb of memory, they work a lot better if you have 6Mb.**

4 **Choose programs that blend well with other applications. ProPage, for example, has a hotlink to ProDraw, so if you already have ProDraw, it makes sense to get ProPage instead of another program that doesn't have that hotlink. Datastore with Wordworth, and Final Data with Final Writer are other examples of programs that link well together.**

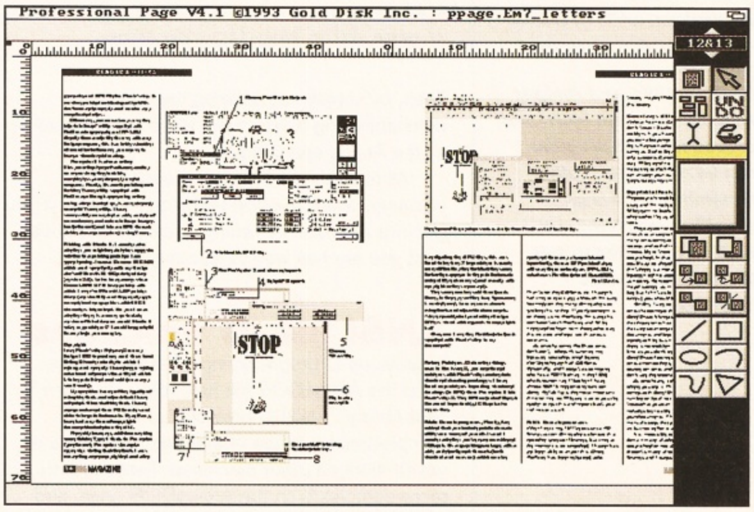
5 **Know your software. Buying the right software is one thing, getting to know it is quite another. Check out the back-up available for explaining your chosen program. There is the Wordworth Companion (call ☎ (01225) 822511 to order it), to show you how to use that program while ProPage 4.1 comes with a book written by myself on how to create documents. Technical support is also vital.**



Word publishers like Wordworth 3.1 rival many DTP programs for page layout features.



The most powerful DTP program on the Amiga is PageStream 3 – but it costs well over £150.



When faced with pages like this one from Em magazine, where you have lots of columns at different heights on the page, you need a DTP program like ProPage.

Suppliers

Final Writer 3 £74.95
Final Copy II £49.95
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☎ 01773 836781
Wordworth 3.1 £69
Wordworth 3.1SE £45
Digita International ☎ 01395 270273
Professional Page 4.1 £49.95
LH Publishing ☎ 01908 370230
PageStream 3 £174.95
Emerald Creative Technology
☎ 0181 715 8866
Protext Upgrade 6.61 £49
Amiga Shopper Offer, Compo Software
☎ 01487 773582
Edword 5
Try a PD Library (see Coverdisks, page 10).

Writing portable code

A good programmer will separate his C code into two sections – Amiga-specific and general code, enabling the program to be easily converted to another machine. **Toby Simpson** *explains how.*

Portability is a tough issue which can cause programmers many problems. If you wrote a C program that used entirely ANSI C functions (like the ones in stdio.h, stdlib.h, string.h and so on) then you could take that source code, copy it to a PC-formatted floppy, and compile it on a PC. It should then run just fine.

Portable code stays clear of system-specific function calls, enabling it to be compiled on any machine. Until the ANSI C standard in 1988, writing C which would be totally portable was mostly guess-work.

You may be sitting there thinking, "Well, why is this relevant to me? I own an Amiga, write Amiga stuff, and always will." Things change, and who knows what machine you'll have in a year. Even if you are convinced you'll be an Amiga owner till the end of time, there are still some extremely good reasons why this article may be of use to you. If you get in the habit of writing good, modular code, where you keep all system-specific routines in separate files, then you at least have the *option* of porting it to another platform at a later date, with the minimum of hassle. Quite apart from the fact that this is a good habit to get into, (well structured, organised, modular code makes learning C++ a whole bunch easier, for a start) it is essential for professional programming.

Obviously, if you are writing a new filing system for the Amiga floppy drives, then there is a case for not even trying to make it portable. But by far the majority of programs people write do not fall into this category, including games. While system-specific stuff may be necessary for a program, keeping it apart from the main code is definitely a good thing. The Finder application we wrote in our early days of C programming is a fine example. Porting this to a PC, or any other machine, would be a right pain.

Degrees of portability

Some of you may laugh when I say that even games can be written to be portable. The immediate question which comes to most people's mind is, "Surely not. In order to get the raw performance out of the Amiga, you must hit the hardware, etc." Indeed. But you don't hit the hardware in every line of code. The graphics and display functions can be separated into a group, with the rest of the game code somewhere else. The game code is portable, and if you need to convert it to another platform then only a small chunk of the program needs re-writing.

The trick is to be reasonable. Keep system-specifics apart from the rest of the code. Design your graphics and audio routines to be enclosed, so that all the data they need is supplied as parameters. Avoid system-specific information in such parameters. If you have a graphics routine to show an object on the screen, it is easy to write something like this:

```
BOOL DrawObjectOnScreen(UWORD blitsize,
APTR data, ULONG total_bitplanes);
```

This is all very good, but if you wish to make 'DrawObjectOnScreen' work on a PC at a later date, you need to do a lot of work to process these arguments into something more sensible. You'd have been better off with this:

```
BOOL DrawObjectOnScreen(UWORD width, UWORD
height, ULONG colours, APTR data);
```

It only takes a couple of instructions to turn width and height to a blitter size, and one shift to turn the colours to total numbers of bitplanes. Porting this is much easier, and what's more, you don't cripple the ported result by filling it with glue code to 'de-Amiga-ise' all the data.

Of course, there are times when you need the odd Amiga-specific in your main code. You can even help to reduce this nightmare by making it conditional. For example:

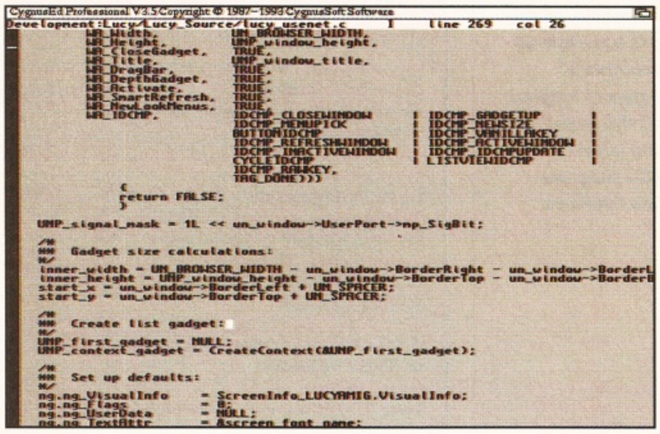
```
#ifdef AMIGA
// some amiga specific code here
#endif
```

Then, by simply not defining the `AMIGA` constant using a `#define`, the compiler ignores all the Amiga specific bits.

All it takes is a little forethought, and planning, which is good technique anyway. If you get into the habit of writing enclosed modules, then you are half way to learning C++.

A fine example

Quite a few years back I started to write an OLR (Off-Line Reader) for CIX on the Amiga. This project is still going strong, and will do for a long time to come. The catch is that I want to move communications across to the PC. I'd dearly love to port and use my own Off-Line Reader, because I have got used to it over the years. Unfortunately, this was written so Amiga-specific, that it is not remotely feasible unless I suddenly have a great deal of spare time on my hands. If I had kept all the main database functions portable, using ANSI functions, then this would not have been such a problem. When I started the project, this thought never crossed my mind, and now I'm paying for it.



By separating your Amiga-specific code into individual procedures, the program can be ported to another computer. The Amiga-specific procedures can then be re-written to suit the hardware of the new platform.

ANSI file IO functions

In previous C programming articles we have used the AmigaDOS file functions which are in "dos.library". ANSI C provides us with a comprehensive range of standard file functions which work on other machines. These are no more complex than the AmigaDOS ones, and

many share the same parameters and names (just in a slightly different order). It requires a little time to get used to them, but they're quite simple. The ANSI functions do not require that you open the "dos.library" before use. (Strictly speaking, nor do the Amiga ones, because most modern compilers, including DICE and SAS do this for you automatically.) It is best illustrated with an example. Look at listings 1 and 2 in the boxout. They both perform exactly the same job, which is to open a file in the RAM: disk called "out_file" and write the string "Hello Everybody!" into it. The subtle difference is that one of the two will also compile and run on a Macintosh, Silicon Graphics Workstation, PC, and many other machines. The other won't.

They *appear* familiar, but look closely. Imagine you had to convert the Amiga one to be ANSI specific. With a program of this size, it is easy. A change here and there and we're done. A 50,000 line database application though, and you're done for.

The reason I have dealt with file IO functions as a separate entity is that they are one of the major sticking points when it comes to porting code, and you can totally avoid it by using the ANSI functions in the first place, requiring little extra work and a negligible performance loss.

Graphic User Interfaces (GUIs)

It's easy to scuttle yourself with these. In one fell swoop you can make porting an application utterly impractical (see the boxout called 'A fine example'). GUI's are by nature extremely system-specific, because almost every GUI deals with windows, gadgets, and menus, in totally different ways. Even here, though, you can help to make the job easier by inventing yourself another layer between your application and the GUI functions in the Amiga's libraries, a sort of API (Application Programmers Interface). This is becoming very popular on PCs these days, as they enter the '90s.

With so many different graphics cards and sound cards, writing anything which uses either sound or graphics can be a tedious process and a minefield of compatibility problems. You have to cope with all the popular cards, and this is a time consuming process. But, by having a standard library of routines, like, PlayASample, or PlayAMIDITune, for example, it is possible for manufacturers to write drivers which support these routines, meaning programs can use one common interface. You can do something like this with GUI's. For example, you may end up with a function or two like this…

```
window_id = tf_OpenWindow(startx, starty,
width, height, flags)
tf_CloseWindow(window_id)
tf_AddButtonToWindow(window_id,
button_type, struct ButtonSize *bs)
```

…and so on. Your main program doesn't need to know, or care, about the machine it is running on. It just needs to know that by calling tf_OpenWindow, a window will open, and buttons can be added using tf_AddButtonToWindow. Should you wish to move this to a Macintosh at a later date, then you simply re-write the code inside these functions to refer to a different GUI. It is this sort of separating of system functions from core code which allows companies such as Microsoft to release MS Word for both the Macintosh and the PC. There aren't two separate programs there, just separate system-specific bits. The core code will be identical. The cool thing with this is that when you fix a bug in one version, you fix it in the other.

The bottom line

The bottom line is that for a little extra work (and it is a little), you can make your source code far more portable. This extra work, even if you never need to port it, encourages better, more organised programs, and is definitely a good thing anyway. A lot of the more recent C tutorials have tried to lead you into improving your programming technique and style. While cowboy six-shooter programmers can write programs faster, the result is usually a hard-coded mess of badly organised functions which is a nightmare to debug and fix at a later date. It takes a little longer to write really good source code, but it pays dividends in the end, and prepares you to be able to use your programming skills on different machines, and different programming languages. ■

The listings

Both these listings have been compiled and tested under DICE C and SAS/C 6.5. Under some other compilers, "amiga.c" may need to be modified to open the dos.library. This can be done as follows:

After the other variable declarations at the start of `main()`**:**

```
struct Library *DosBase;
```

Before you open the file…

```
DosBase = (struct Library
*)OpenLibrary("dos.library", 36L);
if (!DosBase)
    {
    printf("Can't open dos library\n");
    return;
    }
```

…and at the end of the program before the 'return' line:

```
CloseLibrary(DosBase);
```

Listing 1: ANSI version

```
/**************************
**
**  ANSI.c
**
**  Write a string to a file on disk: ANSI
compatible version.
**  Compile under DICE using
**  dcc ANSI.c -o ANSI.x
**  and then run ANSI.x from a Shell window.
*/

#include <stdio.h>
#include <string.h>

void main(void)
{
    FILE  *fp;
    char  out_string[64] = "Hello
Everyone!\n";

    /*
    **      Open the file and error out if there
is a problem:
    */
    fp = fopen("ram:out_file", "w");
    if (!fp)
        {
        printf("Couldn't open file for
writing.\n");
        return;
        }

    /*
    **      Write our string to the file:
    */
    fwrite(out_string,
strlen(out_string), 1, fp);

    /*
    **      All sorted, close up and exit:
    */
    fclose(fp);

    return;
}
```

Listing 2: Amiga specific version

```
/**************************
**
**  AMIGA.c
**
**  Write a string to a file on disk: AMIGA
only version.
**  Compile under DICE using...
**  dcc AMIGA.c -o AMIGA.x
**  ...and then run AMIGA.x from a Shell
window.
*/

#include <stdio.h>
#include <string.h>

#include <dos/dos.h>
#include <clib/dos_protos.h>

void main(void)
{
    BPTR  fp;
    char  out_string[64] = "Hello
Everyone!\n";

    /*
    **      Open the file and error out if there
is a problem:
    */
    fp = Open("ram:out_file",
MODE_NEWFILE);
    if (!fp)
        {
        printf("Couldn't open file for
writing.\n");
        return;
        }

    /*
    **      Write our string to the file:
    */
    Write(fp, out_string,
strlen(out_string));

    /*
    **      All sorted, close up and exit:
    */
    Close(fp);

    return;
}
```

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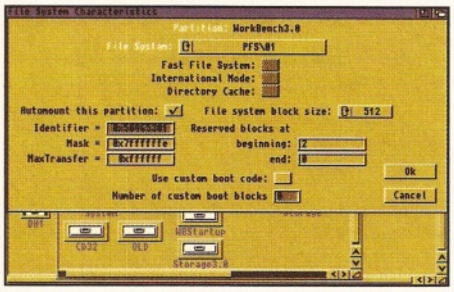
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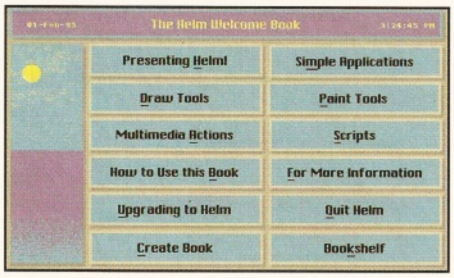
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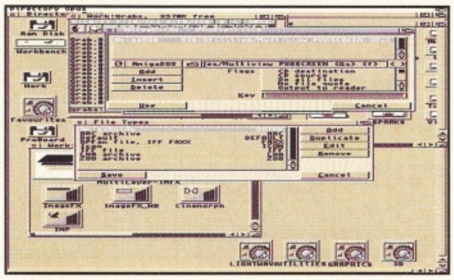
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Description	Helm
AS price	£99.95
Order code	AMF503
Special subscribers price	£94.95



Directory Opus 5

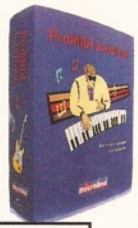
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The latest incarnation of this superbly powerful and well-designed file manager received 92 per cent and an AS Star buy award in issue 51 (see page 67 for back issues). Directory Opus 4 was brilliant and version 5 is no exception. Now this program can be yours for £10 less than the RRP of £59.99.

Description	Directory Opus 5
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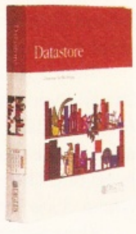


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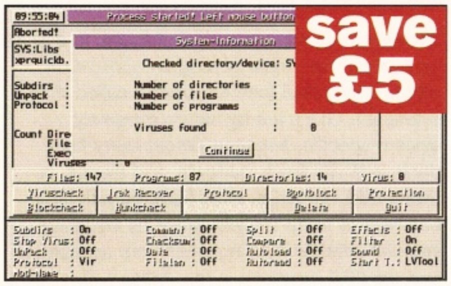
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RRP	£24.95
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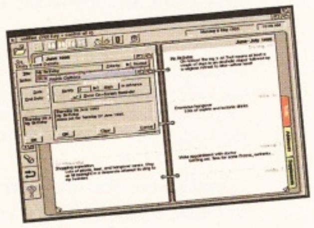
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Siegfried Antivirus Professional – to use its full name – is an essential buy for those who suffer from virus attacks. It can be used with all types of Amigas with a 1.3 or advanced Kickstart version and 1Mb RAM. Save £5 off the RRP of £39.99 by buying from AS!

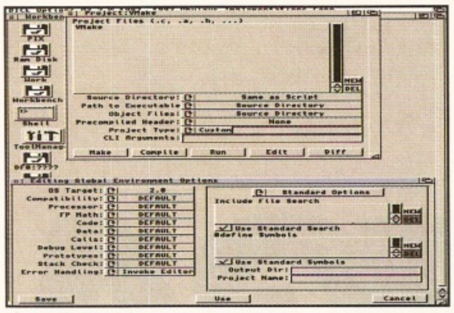
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Public Domain



Nick and Dave *have scoured over 100 PD libraries and beyond to bring you this month's new-look Public Domain section. We think you're going to be rather impressed.*

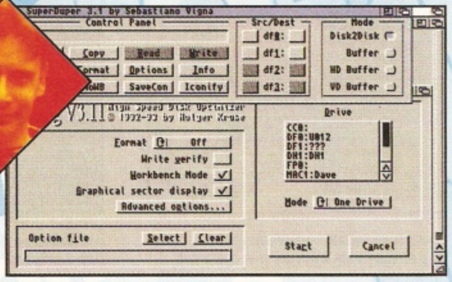
This month, we've introduced some changes to PD select. As you'll see we've added an index to help you find the programs. There's also two new areas, Licenceware and programs taken from the Internet. It's just too much.

Disk U012

Well, what an inspired name for a disk. Cor, I didn't even know what was on there till I slapped it in the drive. It turns out to be a compilation disk containing five utilities. There's AFCopy, which is a Directory Opus-type file manager and very good; ReOrg, the disk optimiser (used to tidy up our Coverdisks); and SuperDuper, the excellent disk copier. There are also two system information programs, SysInfo and AIBB, both of which do excellent system analysis. These aren't new programs by any means, but all five of these gems on one disk is a boon. It would have been even better if they'd included DiskSalv instead of one of the system analysis programs, but don't look a gift horse…

The funny thing is they all work on AGA as well as ECS machines. If you don't have any programs like these, get this.

Verdict: 95% **Star buy**



Two of the five superb programs that you can find on the excitingly-titled Disk U012.

Word Search Designer

Word Search Designer is pretty good. The interface is a bit confusing, with some icons needing a re-design. But, after random clicking on everything in sight, and a plough through the on-screen manual, things start to make sense.

Who, what, where, when, why, how...

Product	No of disks	Type of product	Price*	Supplier	Contact	Verdict	Page
Disk U012	One	Utilities	£1	Pure ECS PD	See PD directory	95%	68
Word Search Designer	One	Application	unknown	Ray Smith	See PD directory	81%	68
Gardening Cat	Four	Animation	£3.60+50p	Roberta Smith DTP	0181 455 1626	85%	69
The Lottery Predictor	One	Application	£1.50	Steven Goodwin	See PD directory	84%	69
Let's Imagine 3	One	Slideshow	80p	32-Bit PD	See PD directory	60%	69
Personality Analysis	One	Application	£1	Software Expressions	0117 942 5987	92%	69
Highway Code	One	Tutorial	£1	Software Expressions	0117 942 5987	77%	71
Dynamics	One	Application	65p	Snappy PD	01375 850365	76%	71
Notebook	One	Application	unknown	Ernest Ruckle	See PD directory	72%	71
S Quiz	One	Entertainment	90p+50p	Roberta Smith DTP	0181 455 1626	62%	71
Roberta's Pot Of Gold	One	Applications	90p+50p	Roberta Smith DTP	0181 455 1626	88%	71
Digital Chips 7	One	Music	75p	Smiley's Amiga PD	See PD directory	90%	71
REMdate v2	One	Application	90p+50p	Roberta Smith DTP	0181 455 1626	87%	71
Basic Note Tutor v1.02	One	Tutorial	£3.95	Saddletramps PD	01709 888127	82%	72
Introducing Workbench v2	Four	Tutorial	£6.99	F1 Licenceware	01392 493580	90%	72
Magic Paint Box	One	Application	£6.99	F1 Licenceware	01392 493580	96%	72
How To Tie Dye	Two	Tutorial	£1.80+50p	Roberta Smith DTP	0181 455 1626	91%	72
Typing Demon	One	Tutorial	£1.50	Kew=II	0181 656 1617	67%	72
Mo's 50 Useless Programs	One	Workbench hacks	£1	MLV PD	See PD directory	80%	72
Manga Animated Babe	One	Animation	80p	32-Bit PD	See PD directory	78%	75
D-Pix	One	Utility	£1	Norwich PD	0421 306186	65%	75
Motion Origin 2	Two	Slideshow	£1.60	32-Bit PD	See PD directory	89%	75
Christmas Labels	One	Clip art	£70p+70p	North Staffs PD	01782 279670	80%	75
EdwordPro v4	One	Application	75p	Smiley's Amiga PD	See PD directory	50%	75
The Third Dimension	One	Disk mag	£1.50	The Third Dimension	See PD directory	85%	75
Autoboot	One	Utility	£1+50p	Colin Yarnall	See PD directory	88%	77
Go With The Flow	One	Slideshow	80p	32-Bit PD	See PD directory	90%	77
Image Engineer 2	556K	Application	n/a	Aminet/gfx/edit/	ImEngV2.0.lha	96%	77
SuperView	630K 222K	Application	n/a	Aminet/gfx/show/	SView463.lha svlib117D.lha	90%	77
Scion	442K	Application	n/a	Aminet/bz/dbase/	Scion407.lha	83%	77

*Buying more than one disk from a PD house is likely to save you money. Also, before purchasing any PD software check with the distributors for compatibility with your Amiga.

You're presented with a re-sizeable grid, and lots of options in a floating palette at the top of the screen. Click on the "question mark" icon, and you'll be taken to the word input editor, where you can enter the words for your puzzle. Up to 99 words can be input, making an enormous word list ready to rival any puzzle books you can buy in motorway service stations (such as The Puzzler, Puzzle Times etc.).

A bit more clicking around reveals the word placing editor. Click on a word, click in the grid, and – hey presto! – the word plops into place. For those unimaginative souls like me, the program also finds a cunning position to place the word for you, hence embedding words within words etc. Using this effect can compact lots of words into a relatively tiny space.

Once you've finished designing your masterpiece, print out the grid, give it to your friends and squirm with delight as they struggle over your ingenious design.

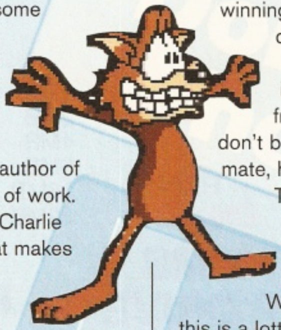
This is a Shareware product, so you'll have to shell out a tenner for the full package. I personally think that's a bit steep, but if you're desperate for a word search creator, you can do a lot worse.

Note, you need a printer driver and fonts directory for this to work.

Verdict: 81%

Gardening Cat

Charley Cat, one of the Amiga's many animated friends, is back in another cartoon. This time his peace and quiet are disturbed by some pesky moles who don't have the same idea of a perfect garden as Charlie does.



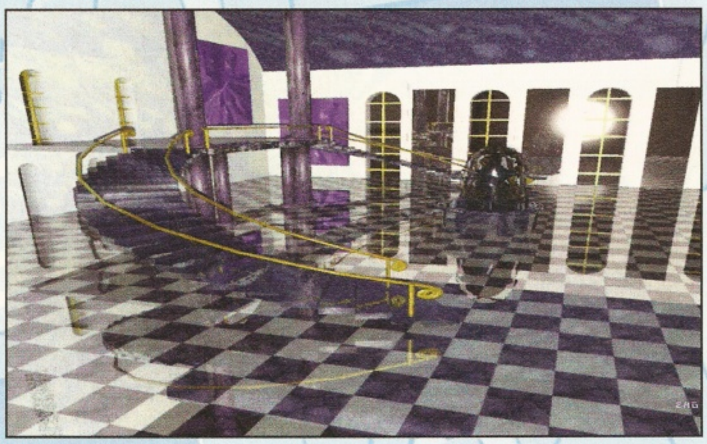
I'll not give the story away; instead a few words on the quality of the piece. Antony Whitaker, the author of the anim, has obviously put in a lot of work. Tha animation is very smooth, and Charlie has the necessary cartoon look that makes you like him. The animation is played with Moviesetter and requires 2.5Mb of RAM. It's split into two parts, and since it comes on four disks, requires some disk swapping, so an extra drive is useful.

If you like Amiga cartoons, this is up there with the best of them.

Verdict: 85%



The 'phone rings, indicating that Charlie's peace and quiet is once again about to be disturbed.



The images on Let's Imagine 3 show talent, but there's only three of them. A small slideshow.

The Lottery Predictor

Blimey! We seem to get one of these a month. This version is actually pretty good. Far from being just a random number generator, The Lottery Predictor can perform mathematical calculations on text strings to create numbers. For example, if I attack my name, Nick, with the Pythagorean systemata (!), the number 13 is produced, which I can then enter in the draw.

There's all sorts to keep the lottery fan happy here. You can type in text, do weird things with it, pick random numbers, pick lucky numbers, and even do maths sums and then get the program to convert your ridiculously large answer into a number between one and 49.

Once you've picked your six numbers, test them out against the database of previous winning results, to see how you would have done in the past. The list of numbers can be expanded each week, and it is also possible to examine the most frequently-occurring balls, in case you don't believe all the 'it's totally random, mate, honest' hype!

The graphics aren't too gob-smacking. In fact, the most attractive bit is the enormous icon which sits happily on your Workbench screen. But nevertheless this is a lottery predictor and a half!

Verdict: 84%

Let's Imagine 3

I settled back to watch what I hoped would be an impressive slideshow of work created with Imagine. The first three pictures loaded and displayed and then, to my surprise, the thing looped and showed the first picture again. A bit baffled, I took a look at the disk. No mistake, there are three GIF images on this disk and that's your lot. As it happens, the images are pretty good, but a set of JPEGs, which would have allowed more on one disk, would have been better. There are better slideshows than this around, but you've got to consider the time it takes to model and render images like these. At least it's original artwork and not just scanned images, like many slideshows, but it's hard to overcome the fact that this is just one disk with three pictures on it.

Verdict: 60%

Personality Analysis

This is so daft it's brilliant. The procedure is simple – you are asked 80 yes/no questions about your reactions to events, your inner-most fears and desires, and other skeletons in your closet. But be careful – some statements are designed to fool you, such as "I cannot forget my problems very easily." Ooh, a nasty double-negative there.

After answering 10 questions with great thought, I decided the program had as much depth to it as a horoscope, but quite frankly who cares! It's a riot. Once you've finished all the questions, take a look at your personality analysis and gasp at the accuracy. Brilliant!

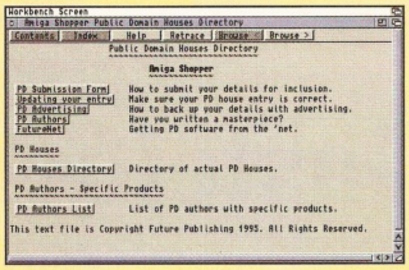
71

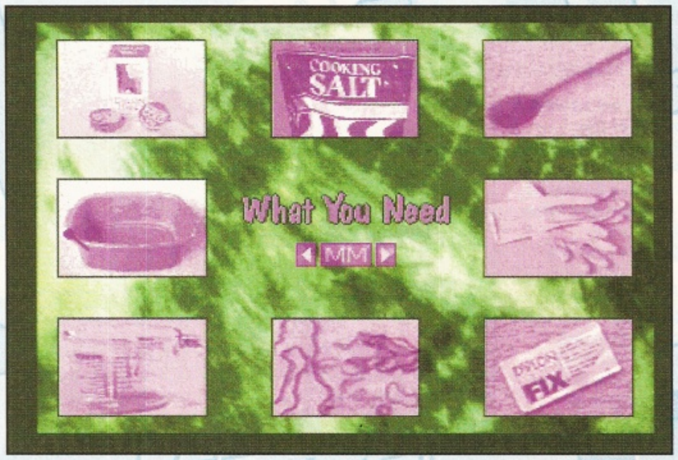
The PD directory



You'll notice references to the PD directory this month. This used to be printed within the magazine, but had to be in very small text because of the amount of information it contained. To solve this, we've updated and re-compiled the list and included even more information. The whole directory has been included as a text file on the Coverdisk.

You'll find an Information Zone on the disk which contains both this PD directory and the User Groups. They are both in two formats, AmigaGuide and ASCII. The AmigaGuide enables you to point and click your way to the information, making it much easier to find the details you require. Read the Readme file for more information. You can, of course, print the information if you want to, and save yourself the trouble of writing an envelope! See page 10 for details.





If you've ever wanted to master the art of tie dyeing, then Roberta Smith's How To Tie Dye is the perfect manual.

And that's it. For a quid, this program is fab. Obviously you should take the results at face value, but it sure beats having your palm read. Great for a dizzy evening after the pub.

Verdict: 92% **Star buy**

Highway Code

The last time I looked at the Highway Code book was five minutes before I said "hello" to the driving test examiner. Most people probably didn't even do that. Highway Code helps you to learn the more intricate rules of the road by asking you 20 multiple choice questions all about driving.

The program is split into two section. The first is basic questions, like 'Pavements are for: 1. cars 2. pedestrians 3. litter. Choose an answer from 1 to 3,' while the second section tests your knowledge of road signs.

All in all you get a pretty comprehensive test of the Highway Code, with your end score being recorded for posterity. The graphics just come up to scratch (although the road signs match the Highway Code symbols accurately enough), so if your mother isn't prepared to test you on the Highway Code, this is a worthy substitute. Don't expect to improve your pass rate, though.

Verdict: 77%

Roberta's Pot Of Gold

There are four programs on this disk. Let's take a look at each:

- **Invoicer** is a straight-forward invoice maker. Enter the invoice code, the amount, and a description of the bill.
- **Memo Master** is yet another program for the absent-minded computer user (what is it about computer people – are we all day-dreamers?). Type in the date (in the format required) and enter the event you need to remember.
- **Check It Out** was my favourite of the four. It enables you to determine whether you'll be in the red or black at the end of the month. Simply enter all your deposits or payments, examine the balance at the end, and then cry (or not if you see a positive number).
- **Phonebook**, finally, enables you to record all your favourite phone numbers, along with the addresses too. Once you've entered all the info, do a sort, and there you go. If you click on a phonebook entry, the address is displayed in a separate window, too.

All in all these four programs make a pretty handy collection to go on any hard drive.

Verdict: 88%

Dynamics

Dynamics is an AGA drawing package. You get the basic tools – line, draw, dotted drawing, box, fills etc., and everything works fast and smooth. There's one level of magnification, in case you want to get down to the nitty-gritty.

There are also some quite nifty features, which enable you to pixelise the image, lighten, darken, etc. However, all these tools only affect the entire screen, since there is no cut or paste option (at least, none that I could find).

For the £5 upgrade fee you get extra tools, like scale, rotate etc., but still there was no sign of cut or paste.

If you're in need of a cheap alternative art package to, say, Deluxe Paint, Dynamics is OK to satisfy your basic needs. But don't expect to load up and draw a masterpiece. Unless you're a born natural, of course.

Verdict: 76%

Digital Chips 7

I'm a great admirer of chip tunes, because I think they can show quite a lot of talent. This disk comes with 10 modules, which are pretty good. It can be booted, in which case the modules are played via a custom interface. If you take a look at the contents of the disk, there are also some extras, like a full listing of modules that has thousands of modules and where to get them. There's also a few text files on various subjects. It's a packed disk, but steer clear if chip mods drive you round the bend.



Digital Chips 7 has more than just the 10 original chip mods and this customised player.

Verdict: 90% **Star buy**

Notebook

If you find your life is organised by phone numbers on chewing gum wrappers or on Sainsbury's receipts, you need help. Lots of help. Whether Notebook will provide a sufficient remedy depends on how disorganised you are.

The program enables you to enter information – addresses, 'things to do', etc. – in to a reasonably attractive (but not in the same way as Cindy Crawford) database.

You can search for words in records, or examine a particular entry. There's also the possibility to create macros for the more frequent tasks.

And that's all I have to say on that. Notebook is OK, but nothing really beats the elation of discovering an old flame's address stuck to your shoe with chewing gum.

Verdict: 72%

S Quiz

If you want a really good laugh, look no further than S Quiz. Not because the program is funny – oh no, that would be too easy. This has quite possibly the worst sound-track EVER! You know how people say, "It sounded like he was strangling the cat," well this really IS a cat being strangled. I'm sure of it! And then a dog bark is brought into the proceedings. Hilarious!

The game itself is pretty lame. Like those awful trivia quiz arcade machines you find in pubs, you have to select the right answer from four possibilities. Each question is based on music (allegedly, although whether a James Bond theme really qualifies is debatable), and most are impossible.

There is no time limit, and the questions are the same in each game. Just learn them and you're away. Sadly, I couldn't be bothered. Get it for the sound-track – ironically it's the program's only merit.

Verdict: 62%

REMdate v2

Of all the reminder programs that have appeared in the AS office this month, REMdate is in the running for the top spot. It's the usual thing – birthdays, anniversaries, and special events can all be recorded, as can 'to do' lists for a specific day.

There's also an address book, which is quite neat, although it can be a bit tricky to discover your stored addresses – you can do a search but there didn't seem to be a way to simply cycle through the list.

What really makes REMdate appeal is the interface. It's good to see someone making an effort with the appearance of their software. Everything fits nicely into panels, which pop up and shadow the hidden screen.

▶ 72

Licenceware

Licenceware fills the gap between PD and commercial software. Unlike many programs that you get from the PD, which are actually Shareware, when you buy these disks, you must buy them from an official distributor and you may not copy the disks. You buy the full program, not an evaluation copy, and don't need to register, because you've already got the licence. As it is professionally distributed, the programs are normally those which don't warrant a full commercial release, but are worth more than the normal price of PD.

Basic Note Tutor v1.02

If you ever take up a musical instrument, you have to get to grips with sheet music. Basic Note Tutor aims to help by teaching you the notes on a musical stave. You're presented with two staves, one a bass and one a treble clef – you see, this music lark isn't as simple as one stave for all purposes. There's a whole host of different keys that you can play in. Fortunately, Note Tutor sticks to the basics.

The program plonks a note on the stave, accompanied by the appropriate 'bong' in tune, and you have to choose the correct note, from A to G. Get it right and you receive some points, get it wrong and you don't.

After slogging through six pages of notes, your score is tallied up and you get a record of your performance, showing your percentage accuracy for each note.

There is also a timer facility, limiting the time you have to answer. This ranges from 24 to just 2 seconds, or for real musical duffers (like me), an infinite time limit.

There are some drawbacks. Whenever you enter your note, a horrible, clangy 'donk' plays. And the notes appear at random – it would be nice to actually follow a proper tune.

But Basic Note Tutor has all that's needed to teach you the basics of musical notation. And with the timer option working you might find yourself quite addicted. I did!

Verdict: 82%

Introducing Workbench v2

The Amiga may have the best Operating System in the world, but it can still be confusing. Even the most computer-literate user can find themselves bemused by all the technical jargon. Fortunately, Introducing Workbench is here to help us all.

This is the comprehensive guide to Workbench. Windows, icons, the trashcan, multi-tasking. You name it, there's something on it. You also get a quick guide in plain English, explaining all the technobabble.

The program comes with mock-up screen grabs, pictorially explaining some of the commands. However, since this is a four-disk set, you're often asked to 'insert volume Illustrations'. Huh? All my disks are numbered Introducing Workbench. A couple of tries later and the right disk was in the drive – up popped the picture. F1 Licenceware told me that from now on the disks will be named appropriately. Let's hope so.

The information is stored as an AmigaGuide document, giving you buttons that link to related sections of the 'manual'. Everything's pretty self-explanatory. Because of the way Workbench operates, however, none of the pictures load unless the original disk is replaced in the drive and the Insert Volume requester again appears. But that's Workbench, only a beginner wouldn't know that. Hang on, isn't that the idea?

But that was the only quirk I found. The set is guaranteed to put even the most computer-illiterate user at ease. Oh, you also need a Workbench 2 or 3 Amiga. What's more version 1 appears on this month's Coverdisk. So check it out for yourself.

Verdict: 90% Star buy

Magic Paint Box

Magic Paint Box is like a breath of fresh air. Yawn, it's another paint package. Wrong! Designed for kids, but likely to suit all ages, this is a masterpiece in entertainment. Stuffed with features, you can create pictures quickly and easily. And it's difficult to make the end result look bad.

First, let's talk about the sound. You can have sound effects, like twangs and burps, for when you select tools. Or choose from nine Lemmings-like ditties. Or the Amiga can explain each tool, using the speech software.

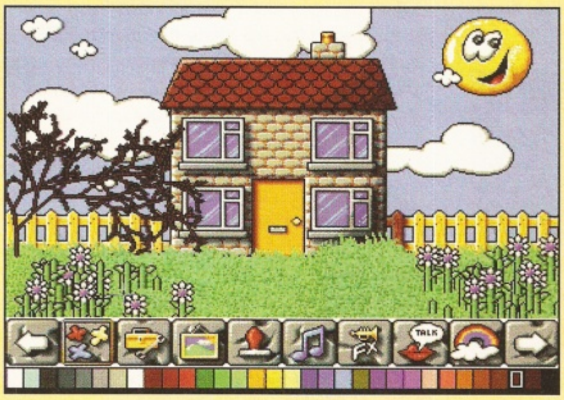
At the bottom of the screen is a tools palette, with the 32 colours beneath that. All the icons are big, clear, and well-drawn.

So what about the art capabilities? A selection of backdrops and clip art is provided, enabling you to create a basic screen. It's a doddle! Then just click on an icon and try out the features. My favourites were Grass and Trees. Grass draws perfect-looking grass all around the mouse pointer. No, it does! Honest! And Trees draws a wiry tree, in the pen colour.

You can even give an imaginary musical keyboard a bashing, and play samples, such as dog barks or car horns – perfect for children who like hammering at a Tomy keyboard.

For pure entertainment value, this program wastes commercial packages.

Verdict: 96% Star buy



This picture, created in Magic Paint Box, took us about 30 seconds to draw. And neither of us went to art college either. A brilliant program.

REMdate is a pretty slick program, that is handy for anyone who doesn't want to shell out for a Filofax, or for techno-yuppies who can't do anything without a computer.

Verdict: 87%

How To Tie Dye

Tie dyeing is that groovy, peace-loving activity that converts a boring, plain T-shirt (or any other garment you fancy) into a psychedelic kaleidoscope of colours. Cool, man. Actually, I've always wished I could tie dye. The last time I tried I managed to destroy one of my favourite tops. It turned all pink and weird. Yuk. If only I had a guide to tie dyeing, I thought.

My dreams have come true, for How To Tie Dye tells you just that. It's a two-disk set, providing all you need to know about tie dyeing. The program is essentially a database of information, presented in an attractive format, with pretty backgrounds and illustrations whenever possible.

Because of the extra graphics, disk swapping is often a necessity – irritating if you only have one drive. But don't let that put you off. If you're interested in tie dyeing this set is a bargain at the price.

Verdict: 91% Star buy

Typing Demon

Not surprisingly, this is a typing tutor. Select a level, read the sentence, and type it in, trying to break your previous speed. It's that simple.

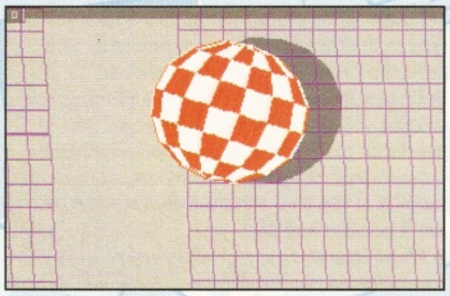
Or is it? Before you can type your words, there is an irritating two-second pause. In reality this means the program only registers your sentence after you've already typed most of it in. So, back you go and delete all your words, and then punch the screen in.

What's the point of a computer asking me to type words in, when I can do that already, just by writing a letter? I want something to teach me how to type.

Verdict: 67%

Mo's 50 Useless Programs

Workbench hacks are small programs that do odd things to your screen, or put animations on your screen, or make things chase your mouse



One of the useless programs on Mo's 50 – great to watch, but does nothing constructive.

The largest and most highly praised collection of high quality DTP & DTV PD & Shareware in AMIGA history!

We have seen almost every Amiga CD title in existence and sadly, the general trend appears to be "shovel as much data on as possible and to hell with the quality" The majority of these CDs are also developed as multi platform CDs and while this may advantageous for the company selling them, the end user is faced with a CD containing a high proportion of files that he probably can't even use. So what is left?...a CD containing loads of badly organised directories filled with low quality (in some cases even pathetic) graphics. Being a little dissapointed, the user then looks in the font directories and finds...a massive task on his hands...he has hundreds of fonts (that are probably duplicated many times) and no way of knowing what he's got! The poor end user is then literally forced into loading every individual font into an application, just to see what fonts he's actually got! If that wasn't bad enough, he then, quite possibly, discovers that most of the fonts have missing and/or corrupt files!

Some of these so called CD developers even get away with "shoveling" data from their old CDs to new ones and releasing the new CD as "Professional" We could go on and on and on, but why bore you with something you already know? We genuinely feel that the current situation stinks and we at EMC are aiming to set the standard on which all data CDs on the Amiga will be judged. A big claim you say? Well, here's a brief insight to what will be included on the EMC CDs and how the data will be organised...

Firstly, these CDs are aimed directly at Amiga users, and are not designed for multi platform computer use. This means that you won't get CDs loaded with PC files that you cannot use! To aid in the rapid location of font, clipart & image data, each of the 3 CDs will contain...IFF font preview screens for EVERY font (regardless of it's format) you simply click on the preview icon to SEE the font! The clipart and image directories have been FULLY sorted and ALL directories include full IFF preview thumbnail index screens (and also descriptive filenames) Purchasers of the CDs will also have the option to buy a typeface book, published especially for the EMC CDs, containing font printouts!

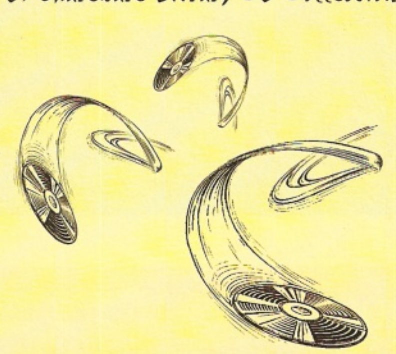
The RRP price for each CD is £24.99 + £1.00 UK pp

For First class recorded Airmail...Europe add £4.00 pp & Rest of World add £6.00 pp

The second disk - ***EMC PHASE 2*** - will be released on...***Monday 6th November 1995***

E.M.Computergraphic's

PD/Shareware Library CD Collection



PHASE 2 - RELEASE DATE: 06.11.95

FONTS
Adobe Type1 EMC volumes 17, 27, 29 & 77
CG (with postscript & .atc files) EMC volumes 25, 26, 30, 31 & 82
Colour EMC volumes 48,49 and 71 Imagine compitable Type 1 Fonts

CLIPART Fully sorted into sub-directories (number of directories listed in brackets)
IFF — Alphabet(4),Borders(16), Buildings(6), Cartoons(17), Computer(7), Education (5), Electric(6), Food (90), History (5), Natural (59), Space&SciFi (3)
IFF Col — Fruit, World Maps (of every country on Earth!), Ships. Vegetables
GEM — Arrows & Stars, Borders, Buildings, Clipart, Office, OtherStuff, Photo, Transport.
IMG — Animals, Cartoons, Food, OtherStuff, People, Plants, Sports, TheArts, Transport, Xmas.

IMAGES in IFF 16/256 colour and Ham interlace formats
America, Babylon5, Birds, BorisV, Britain, Dogs, Egypt, EQuest, Famous People, Girls, Kelly, Military, NightBreed, Panoramas, People, SciFi, Terminator, Textures, Star Trek (TNG), V, Water Scenes, Wildcats. World, World People and over 70 megabytes of 736 x 566 Video Backdrops in IFF 16 & 256 colour formats.

PHASE 1 - AVAILABLE NOW!

FONTS
Adobe Type1 EMC vols 4, 5, 6, 7 & 16
CG (with postscript & .atc files) EMC vols 8, 9, 10, 23 & 24
Professional Draw EMC vols 18, 19 & 20
and 52 IFF Clipfonts

CLIPART Fully sorted into sub-directories (number of directories listed in brackets)
IFF — Animals (114), Fantasy(27), Music(12), People(73), Religion(12)
IFF Col — Birds, Cars, Cats, Dinosaurs, Dogs, Fish, Horses, LionKing, Music, Planes, Reptiles.
EPS — Animals, Buildings, Computers, Food, Logos, Office, People, Transport, USA, World.

IMAGES (in IFF 16 colour, Ham interlace and IFF 256 colour formats)
Animals, Balloons, Blake7, Cars, Conan, Dragon Lance, Fantasy, Horses, Natural, Planes, Racing, Renders, Reptiles, SnowScenes, Space, Star Trek (TOS&Movies) Trains & 67+mb of 736 x 566 Video Backdrops in IFF 16 & 256 colour formats.

OTHER STUFF
All Pagestream3 updates to version 3.0H, Complete Opalvision2.3b update, 19 third party Opal utilities, Typesmith2.5a update and Demo, Pagestream2 Demo, 18 really useful Utilities and heaps of other stuff!

PHASE 3 - RELEASE DATE : JAN'96

FONTS
Type1 EMC vols 78, 79, 80 & 81
CG (with postscript & .atc files) EMC vols 83, 84, 85, 86 & 87
Pagestream EMC vol 3 - 200 colour Clipfonts
and our previously unreleased Type1, CG and ColourFonts

CLIPART Fully sorted into sub-directories (number of directories listed in brackets)
IFF — Events (45), Military (26), Misc (33), Sport (37), Transport (35), Work (37) and World (41)
IFF Col — Flowers, Insects, Mammals, Trees, Xmas.

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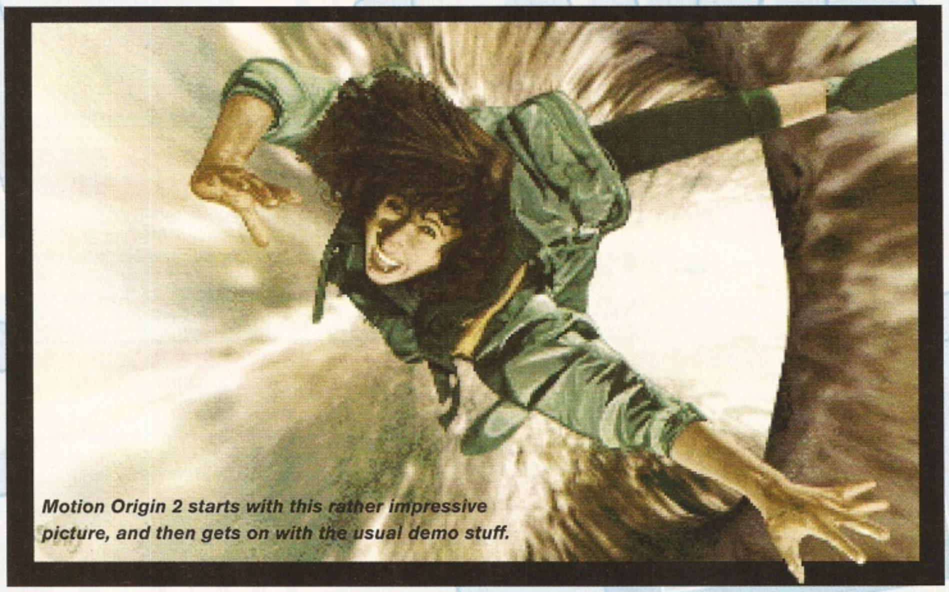
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Access VISA E & O E



Motion Origin 2 starts with this rather impressive picture, and then gets on with the usual demo stuff.

pointer, or… you get the idea. As such, they're largely useless, but are quite entertaining. Most people have one or two in their system. My mouse pointer is animated with Sleeping Pointers (which you can find on Amiga Format's Coverdisk, issue 76) and I've included a couple of hacks on this month's AS Coverdisk as well. Hacks also can show some real talent. This is a large collection of hacks, with something that should interest most people. Boing and Bouncer are great. Close Me is irritating. Disk Talk is fun. A good collection of hacks that will keep you amused for a while. There's maybe 10 or 15 you'll want to keep.

Verdict: 80%

D-Pix

This program is based on a very clever idea. Anyone who uses clip art will know that it's normally very blocky, especially if you want to resize it. This program allows you to do several things, including smoothing. So, if you've got a large image that is too blocky, D-Pix tries to make it more acceptable.

It works reasonably well, removing a lot of the hard work, but you'll still need to do some touching-up. The problem with this version is that it has the load disabled. Now, I can see the point of disabling the save, but you really want to be able to try out the functions on clip art that you want to use, rather than just on the two screens built in. I guess the reason is that people would try and grab the screen rather than pay the Shareware fee, which has spoilt it for others, because it means you can't judge how well it performs for your actual needs.

Verdict: 65%

Manga Animated Babe

Sounds like fun, I know. Well, what you get is a short animation (about three seconds) of a female body walking past the camera. Don't get excited, because this is about as titillating as watching my grandmother clean her false teeth. No, the aim of this anim is to show you what's possible with Imagine and a bit of spare time.

In that sense, it's quite attractive, although the 'babe' in the sequence could do with some hair. Oh, and the anim jumps back to the start, rather than offering a smooth transition.

Verdict: 78%

Motion Origin 2

The great thing about demos is that you can sit back and just watch them. This one's pretty funky. It's a 3D scrolling texture-mapped affair, but very well presented with lots of effects like landscapes and mountain ranges.

Then you enter Doom-clone territory, watch as the camera runs around the passages, and delight in the brilliantly-drawn end image.

And then it gurus. But you can't have everything! Top stuff.

Verdict: 89%

Christmas Labels

This disk mainly consists of IFF images that are intended for use in a paint package for making Christmas labels for your presents, although there's no reason why you can't use them for anything else. There is also an introduction to the labels, written in AMOS, but it's superfluous.

There are 20 images, and it's a very diverse selection. Although all of the pictures are quite cartoony, they are well drawn and some original thought has gone into the images. It's a good source of quality, colourful Christmas pictures. I'll be E-mailing a few to people I know.

Verdict: 80%

EdwordPro v4

EdwordPro is a brilliant text editor. One of the best in the Public Domain. It's packed with features and it's ideal for writing scripts, but this is version 4, and version 5 has been around for absolutely yonks.

Don't get me wrong, this is still a great program, but don't waste your time with it. Get the most recent version and register. I'm going to replace my default script editor launched from DOpus with it.

But Version 4? "Get the heck out of here!" (Done in an Eddie Murphy-type voice and badly dubbed for pre-watershed reading.)

Verdict: 50%

The Third Dimension

Disk magazines tend to come and go, either because of lack of interest or because the creators lose momentum. This one, though, is now on Issue 15. It is dedicated to 3D construction kit users. The mag's content is pretty comprehensive, with tutorials, letters and features as well as some example files for you to play with. The presentation is not great, and there is a pretty dreadful picture included (that I'll hope is a part of some in-joke), but the

77



The Christmas programs are already arriving. And the temperature outside is pushing 100°!



No, this isn't a game. It's a rather weird part to the Go With The Flow demo (see page 77). To escape back to the main part, you need to enter a password. (Hint: Think bovine).

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content is extensive. If you are a 3D construction kit user, then here's a mag you should know about.

Verdict: 85%

Autoboot

Making autobooting disks requires some knowledge of AmigaDOS, which can often put people off. This program is designed to save you the trouble, by giving you an easy to use graphical user interface. The program has a cheap-and-cheerful feel to it, but performs well. Although there are advanced options, I think Autoboot is really only of interest to novices or those to whom AmigaDOS is a mystery. The up-side is that for such a small price, your sanity can be saved and you need never delve into your manuals to try and work out how to make a stripped-down AmigaDOS disk. On the down-side, it does little more than copy files on to a disk for you, although it does give you a certain amount of configurability. One missing option is that for FFS disks (WB2+), which means any disk you make uses the 1.3 structure and commands, which is a bit of a waste for Workbench 2 users.

Autoboot has little to offer those who know their AmigaDOS, but will make life much easier and solve many problems for beginners.

Verdict: 88%

Go With The Flow

Most demos are quite pleasing on the eye and entertaining enough, so I was ready for more of the same. This is no ordinary demo though. Half-way through the usual set of bouncing balls and lame jokes, the screen goes funny, it pretends to crash and you end up in the middle of a mini game, with a point and click interface for you to try and find your way back out into the demo. Wacky and surreal cow fun. It's an excellent way to while away a few bewildered hours, and if you get through it all quickly, give it to a mate to annoy him/her. ■

Verdict: 90% **Star buy**

PD submissions

If you have some exciting PD disks that you'd like to be considered, send them into the magazine at the usual address, clearly marked as a PD Submission. We welcome any type of disk, except games.

If you are a PD house, make sure you include all the information necessary, such as how to contact you and how much the disks cost and how people can pay.

If you are the author of the program, state where people can get your program from, and whether you would like us to consider it for inclusion on a future ShopperChoice Coverdisk.

Information about new PD houses or PD authors is accepted for inclusion in the PD directory – see the directory for details.

Internet select ;-)

Surf's up, baby! Way cool, man. Welcome to the second new feature in our new-look PD section. Here's where we bring you the pick of the month taken from the Internet. Normally the best programs we find can be found on our Coverdisks, but here we're going to concentrate on the programs that were too big for the disks. However, FutureNet will soon have its own ftp site set up and as soon as that's ready (which may be by the time you read this), we will also put the programs on the Amiga Shopper pages, so you'll be able to download them from there. If you don't have access to the Internet, some PD libraries may stock the programs. But remember, programs on the the Internet are updated regularly, so check the archive versions.



Image Engineer 2 is a completely free image processor and it ain't half good.

Image Engineer 2

A couple of months ago, we had a program called ImageStudio 2 on a Coverdisk. The initial version of that program had won last year's Amiga Shopper Readers Awards for best Shareware package. Image Engineer 2 is a new challenger for the top slot. You need another archive in addition to IE's to install the program. When you download IE2, get the Superview.library, another PD package, at the same time. Once you've installed the library, you can install the Image Engineer program, which just means a config file and an assign to be added to your user-startup. There is a script that does this for you. I had one slight problem with the config file, but it was easily rectified with a bit of jiggling.

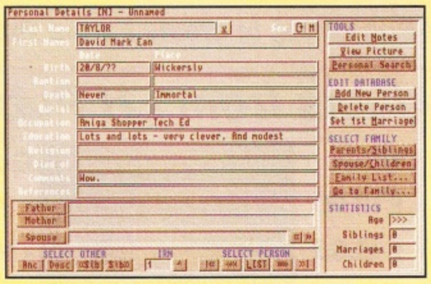
The program has a full guide file, but unless you've never used an image processor before, you'll not need to look. It works in any screenmode with any palette up to 256 colours on a standard AGA screen. You can load and save any picture type with surprising speed. Operating on images is easy, with the usual effects and some rather novel ones, like the sparkle effect, that adds twinkles to your picture. When the program is operating on an image, you see the temporary files as the effects are laid over, and you are then given a second image, when it is finished, so you can easily close it and revert to the earlier version without reloading the image.

The program requires WB2+, a 68020 and a minimum of 2Mb RAM (4 recommended). I've saved the best till last, because there's one more feature to be considered. It's FREE! Yes, totally free. There are no restrictions at all – the WHOLE and complete program is supplied absolutely free. So even if you find Image Engineer isn't for you, you haven't spent a bean. The author has even set up a support WWW page at: http://minyos.xx.rmit.edu.au/~s9407349/.

Excellent. Check this program out now.

Archive: ImEngV2.0.lha, 556K
Source: Aminet/gfx/edit/

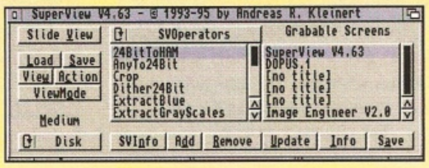
Verdict: 96% **Star buy**



Scion makes plotting your family tree easy.

SuperView

In order to run Image Engineer 2, you need the Superview.library, which is included in this archive. You can also get the library archive separately, but I decided to take a look at the program as well. It is designed to be a fast image viewer, with a few knobs on, such as screen grabbing. Installing it can be a bit of a hassle – because it has to copy so many different parts you need quite a lot of space on your System Partition. So, you'd either better have a large System Partition or be ready for a little bit of fiddling (it only took me a few minutes to sort out some assigns). The program loads images very fast and complements Image Engineer very well. You'd do well to get this archive and check this out at the same time as IE2, instead of just the library. One thing to note is that this product is Shareware, so send a donation.



SuperView, get it at the same time as IE2.

Archive: SView463.lha, 630K
svlib117D.lha, 222K
Source: Aminet/gfx/show/

Verdict: 90% **Star buy**

Scion

Specialised databases can make your life easier by having the fields and interface pre-defined. This program is a genealogy database, for tracing your family tree. It is remarkably easy to use and also allows you to assign an external image viewer to link to pictures of the people in the database. This aspect would be even more impressive had it been made more configurable. As it is, you must rename pictures to a specific filename format, or else re-select the picture manually each time. As far as getting your family tree up-and-running, Scion makes it as easy as possible. If you are wanting to trace your family tree, use this program. It is quite large (just fitting on a disk even when power-packed), but still runs on a WB2+ machine with only 1Mb RAM.

Archive: Scion407.lha, 442K
Source: Aminet/bz/dbase/

Verdict: 83%

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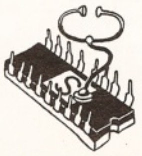
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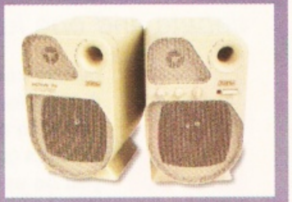
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Talking Shop

This month in Talking Shop: The Amiga at work; a ShapeShifter debate and one lucky reader wins a Hi-Q PowerStation. Plus more...

Now we know how much Amiga Technologies are going to charge for new Amigas (see page 14), will you be upgrading from your A500/A600 or perhaps replacing your faithful A1200 with a new model? And what new developments in Amiga technology do you want to see?

The Amiga at work

£25 Winner

In your August issue you asked people who use an Amiga in their workplace to write in.

I work as a design draughtsman for CSA Antennas in Kent, a UK division of one of the largest communications companies in the world, namely the US satellite/telecom service provider formerly called COMSAT Corporation, now known as COMSAT RSI. It was COMSAT who were responsible for the success of the first commercial communications satellite 'Early Bird' (Intelsat 1) in 1965, and have since played a key role in establishing communications services in many fields, from wireless to radio astronomy.

CSA Antennas specialise in the design, manufacture, and installation of a whole variety of antenna (aerial) systems, mast structures, and other radio communications equipment, for both commercial and military markets worldwide, including the UHF broadcast (TV) industry.

Working in the drawing office on an Amiga, I am one of a team who create mechanical/electrical designs using our in-house CAD system, which is 'XCAD3000' 2D/3D software (formerly XCAD Professional), as distributed by Digital Multimedia Ltd. This software is very intuitive to use and very good at what it does, which in our case is to produce 2D mechanical engineering drawings for parts which range from small metal castings and plastic mouldings, to welded steel mast structures over 100ft high.

Our set-up began about five years ago with one humble base B2000, and has now expanded to five machines all networked using Interworks's ENLAN DFS networking software, including two 40Mb, 6Mb RAM, 25MHz A3000s, one 80Mb, 6Mb RAM B2000 and a further 540Mb, 4Mb RAM A3000, which acts as the main file server. Both B2000 machines are up to Kickstart/Workbench 2 status and the original B2000 now has an 030 accelerator card and an optical drive connected as well, which is used to archive all drawing files on to 128Mb optical disks. All graphics are displayed on 14/15 inch multisync monitors in hi-res mode.

For drawing command input, all but one of the machines has a Cherry graphics tablet, which is supported by the software as standard. These have become indispensable interfaces as many drawing commands that would otherwise require much mouse selection from pull-down menus can be replaced with one click of the puck on a single tablet key position.

With the network in place a shared directory is set up on each machine that is accessible from every other machine for direct exchange of drawings pier-to-pier, while all machines can access the main archive file server or optical drive.

Finished drawings are output in HPGL form to floppy disk and transferred to a lone A500 (one of the few remaining Kickstart 1.2s) connected to an HPGL-compatible A0 pen plotter, which although is nowhere near as fast as the latest inkjets or thermal plotters, still has good line definition (when the pens work!). Although the plotter could be connected to one of the networked Amigas, office layout and plotting set-up make it more convenient to plot to floppy disk and transfer that to the A500.

These drawings are then copy-printed for sending out to prospective suppliers for manufacture, or quote of parts. Sometimes the CAD drawing data is required direct by the supplier, to maintain drawing integrity, or just for speed. XCAD3000 supports a DXF output standard which can be imported into many other CAD packages on other hardware platforms. It is quite common to send files via modem to suppliers abroad.

Some recent projects have included work on equipment for use with Personal Communications Network Systems (PCN), as used by many modern digital mobile phones from certain well-known telecommunications companies, as well as other related areas.

This system has served us well over the years and has proven capable of professional results. As always, certain software limitations or bugs exist but these can usually be worked round. The only problems we have to face concern the future maintenance of the hardware and support of the software. Unfortunately, even present maintenance is difficult and continued development of the software is now only available on PC/UNIX platforms.

So, here is an example of where Amigas have an active role as an engineering tool, being instrumental in providing today's modern communications systems.

The next time you dial on your mobile, an Amiga may have had a hand in making that call!

Gary Foord, Gillingham, Kent

We are always on the look out for people who use Amigas in their everyday work to tell us about them. We want everyone to realise just how versatile Amiga technology is. So, if you use Amigas at work, write in and let us know. We may even want to interview you!

Hi-Q PowerStation winner!

We had hundreds of entries to the Hi-Q PowerStation competition from our September issue (AS53). But there can be only one winner. And that lucky reader is Mr R. Adolphus of Hammersmith, who will find a large box appearing on his doorstep very soon. Congratulations R., who touched our hearts with his line, "Installing a Hi-Q PowerStation is easier than finding out what is going on at Amiga Technologies." Ooh, controversial!



Shaping up

The following is a composite of several E-mails between Matt Schmill and David Taylor...

Publishing a review of a product that was not running is simply unacceptable. There are no grounds for a statement like 'don't expect to run QuarkXpress' when Quark, indeed not even ShapeShifter had been put to the test. One need only read comp.sys.amiga.emulations to see that there are indeed users who use ShapeShifter with Quark, FoxPro, etc., with great results. I expect great things out of ShapeShifter (contracting work with FoxPro) and the reader base of your magazine could too.

The 'Quark' statement requires such explanation that more explicit wording is needed to keep everyone from flying off the handle out here.

Before I sign off, it is worth remembering that ShapeShifter, while a software emulator, is emulating on its native CPU. The result is very close to the performance you'd get on a Mac with the same CPU. Let's not rule out software

Subjects of interest and how to contact us

£25 Winner

We want you to write in to Talking Shop to tell us which Amiga-related articles you would like to see featured in Amiga Shopper. AS is, after all, your magazine, and for us to keep giving you all the information you want, we need you to tell us what else you are looking for. It could be an interview with an industry figure, a Supertest of monitors, a tutorial on a particular program or a review of a certain product that we haven't done. We can't promise that everyone's ideas will be used, but if several people ask for the same feature, then we will act upon it.

Or you could just write to us and tell us what you think of Escom's plans for your machine and how you think they should be developing Amiga technology.

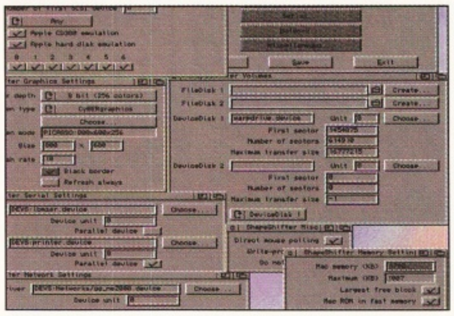
And remember that the Star letter of the month wins £25! Send your ideas in to:

Talking Shop, Amiga Shopper,
Future Publishing, 30 Monmouth Street,
Bath, Avon BA1 2BW.

Alternatively, E-mail your letters to:

amshopper@cix.compulink.co.uk
sgrant@futurenet.co.uk

All the letters received at these addresses will be considered for publication, unless you specifically advise us otherwise.



You'll find ShapeShifter on AS53's Coverdisks.

emulators because they're software. Let's rule them out because they're running on 68020s.

Matt Schmill, E-mail

As we discussed – and I'm only repeating it for other readers can see the full story – the piece on ShapeShifter in AS52 was not a review. There was no verdict and the piece was merely to give readers the full picture of the emulators were available. As you can see from the news pages in AS52, we had ShapeShifter running when we went to press, but not for long enough to allow us to do a complete review.

The Quark statement was made in a boxout aimed at users interested in making use of other platforms and were considering emulation as the answer. Given that the vast majority of readers have A1200s, we were merely saying that it isn't feasible to run Quark. Even on a Quadra 700 Mac with rather a lot of RAM, there are some pages of this magazine that are too large to be opened. To expect professional results on an unexpanded A1200 is fantasy.

There was only room for a small box on this subject and wasn't space to go into depth about the results you could expect on different Amigas. However, I accept that if you own an A4000/040 with lots of RAM and a graphics card, then you'll be able to use programs like Quark very well. It's just that we are talking about a minority of people. The vast majority of readers though, who also have access to Macs, can use ShapeShifter for lower-end software, which is why we included the package on our Coverdisks on AS53. It's not as if we weren't highly impressed by the program.

As with so many packages, even ones native to the Amiga, the level of performance depends on the capabilities of your Amiga. Since you must own a Mac to run ShapeShifter (or at least the ROMs, but try buying those separately), it may, in the end, be cheaper to buy a decent Mac to run such software, given the Amiga hardware needed.

You can read even more about ShapeShifter in Amiga Format's October issue.

Dave

Language update

The following is in reference to our programming languages Supertest (AS47). Apparently, there is still AmigaOS V3 support available for the BenchMark M2 compiler. Modula 2 itself never caught on that well in the US, though I gather BenchMark did fairly well in Europe. Readers may be interested in this support, especially if they already use BenchMark Modula 2.

Dave Haynie

I saw the recent material re: Benchmark M2 on the Amiga Shopper WWW page: (http://www.futurenet.co.uk/computing/amigashopper.html). To update your info: I did the sorely needed update (at least some of it) for Jim Olinger of Armadillo Computing over a year ago. He advertised every month in Amazing up until CBM folded. Apparently, he never got more than a handful of orders over that time; I have not heard from him in quite a long time. I fear that he is too depressed over the state of the Amiga in the US now. I'm sure he'd still fill any orders he might get now, however:

Jim Olinger, Armadillo Computing, 5225 Marymount Drive, Austin, Texas 78723, USA. Phone/fax number ☎ 001 512/926-0360. E-mail: jolinger@bix.com

Anyway, the update included a number of things you identified as deficiencies in Benchmark:

- REAL number code generation now can use either the IEEE or FFP libraries.
- LONGREAL support was added, using the IEEE dp library.
- A compiler option for 68020 code generation was added.
- Problems running on the 68040 were fixed.
- The full set of AmigaOS 3.1 support modules are included.
- The editor was nudged a bit to work better with various new video modes and to use ASL file requesters if running on v2 or higher.

I made a number of other incremental improvements such as some better code generation, clipboard support in the debugger, increased capacity of identifier buffer space in the compiler to handle all those v3 video mode ids all at once, an M2 version of SimpleRexx and more example programs.

It's now a very good tool for building v3+ software, and I'm still using it extensively for my own work.

Tom Breeden, E-mail

More of the same?

It seems that Escom is trying to be even worse than Commodore at marketing the Amiga. £399 for the A1200 seems quite high, considering that a year ago it sold for £100 less. I hope they come to their senses, like they did with the A4000 in the USA.

Eyal Teler, E-mail

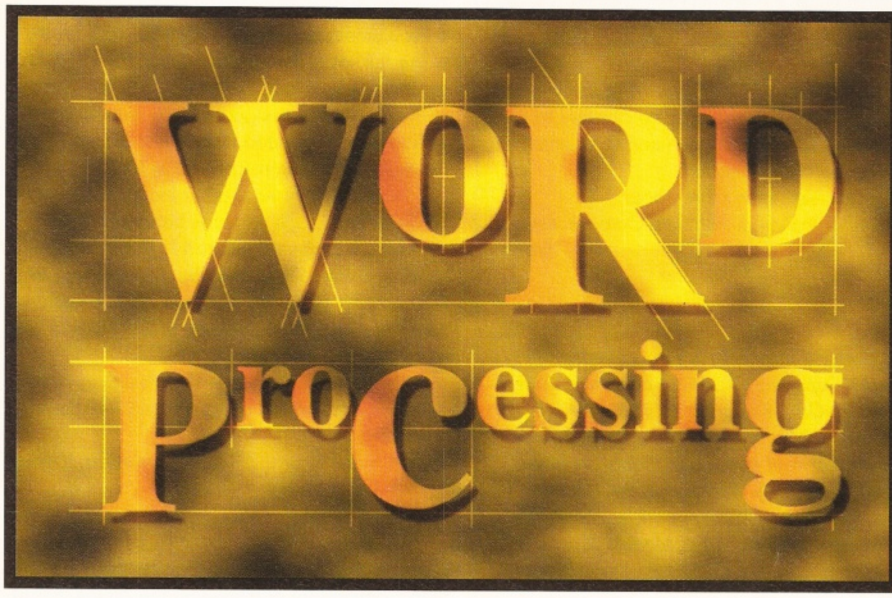
Read our News Report on page 14 for more information about the new Amigas and how much they will cost. Then write in and tell us what you think! ■

Advertisers' index

The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

Next month



Say it with words

All you ever wanted to know about word processing and DTP software will be revealed in our massive Supertest next month. We put the best packages through their paces and advise you on the most suitable software for the work you want to do, whether it be business stationery, a fanzine, or whatever.

AMIGA SHOPPER MAG*SAVE

Reserve your copy today!

Remember that the easiest way to ensure you get hold of a copy of the December 1995 issue of Amiga Shopper is to reserve yourself a copy at your local newsagents. It's simple – cut out this form, or photocopy it, hand it in to your newsagent, and you're laughing.

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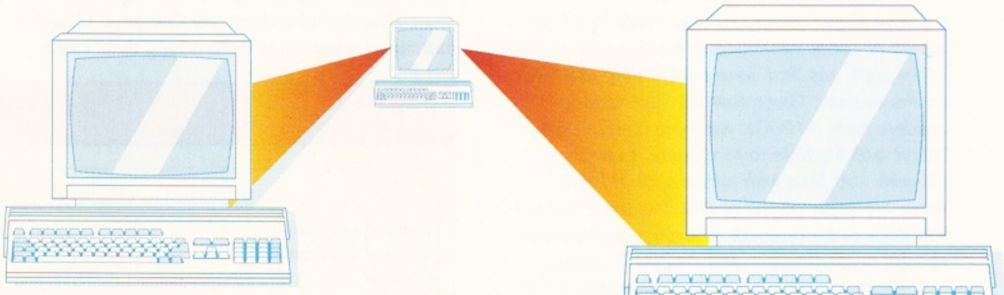
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Networking Amigas

John Kennedy has been experimenting for ages with networking his Amigas to a PC and a Mac. He shares his findings with you in the December issue of Amiga Shopper.



PLUS!

December heralds another packed issue of Amiga Shopper. Not only do we have the third instalment of our immensely popular DTP tutorial and the second of Mojo's 3D tutorials, but we have pages and pages of reviews, the latest news from the world of Amiga Technologies, the second of our re-vamped PD Select feature, plus Amiga Answers and a brilliant competition!

Coverdisks

December Amiga Shopper will feature another two Coverdisks packed with essential programs and utilities. And if you subscribe you'll receive an exclusive THIRD disk!

December issue **56.** On sale Tuesday, **17th October**

Picasso II RTG



Liana

Are you in need of a fast and easy connection between two Amiga's? Liana, the low-cost network solution, is exactly what you want! Just plug it in, install the software, and it runs! Nothing could be easier than that. Liana is the network solution for those with a small budget and big needs. You can even share your hard drives and printers.

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2 MB

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- 24Bit Animation program included
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Ariadne

Don't get overwhelmed with the complexity of setting up a network, use our Ariadne Ethernet card that is compatible with all Amigas that have an available Zorro Slot. This card is not only easy to network - it also equipped with 2 additional parallel ports offering multiple network solutions.

- 10Base-2 (Thin Ethernet, coax-cable) and 10Base-T (Twisted pair, western jacket)
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- English manual



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Shopper**disks**

*Two astounding Coverdisks this month with two complete packages. There's **5Mb** of useful programs and utilities. And they're all conveniently arranged into seven zones.*



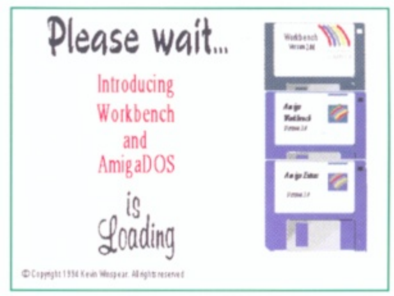
HiSoft BASIC

This month we're giving away the full version of HiSoft BASIC 1, the ideal language for beginners who want to dip their toes into the programming pond. You'll soon be unleashing its full potential and making programs that will have you gasping in disbelief.

BASIC is the perfect tool with which to start programming. The language follows plain English as much as a computer can, making it easy to understand and follow your instructions.

Once you've mastered HiSoft BASIC – which won't take long if you persevere and think about what you are doing – you'll find that you have picked up the skills to easily progress to more complex languages, like C or Assembler. And you'll never believe how easy it all seemed.

Introducing WB



Introducing Workbench And AmigaDOS is F1 Licenceware's most popular title. We've got the full version for you. It's the ideal introduction for beginners who want to learn how their system works. If you've never managed to make it through your Workbench manuals and are still in the dark, then let this interactive tutorial take you through the nooks and crannies of your Amiga. Find out how to customise your system to your needs and learn how everything works. You'll soon be making the most out of your Amiga.

Shopper**Choice**

Another top-quality selection of PD and Shareware, carefully chosen to provide something for everyone.

Utility**Zone**

There are three brilliant utilities to enhance your productivity. Heddley is the AmigaGuide/html text file creator that makes creating guides and Web pages simple. WBStartup+ improves on the standard WBStartup capabilities and GUI-DOSError makes sense of those DOS error codes for you.

Programming**Zone**

DCCII is a GUI interface for compiling DICE programs. It's designed for beginners who are baffled by the complexity of other compilers.

3D**Zone**

In addition to the programs in the Application Zone, there are objects for LightWave fanatics.



Creative**Zone**

Hundreds of replacement icons to help you smarten up your Workbench look.

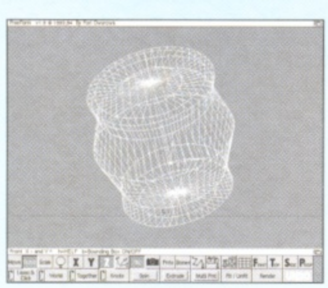
Information**Zone**

A new Zone which includes a full PD Directory that we think is the most comprehensive ever. There's also a full User Group listing to help you get in touch with fellow Amiganoids. Both are available in AmigaGuide and ASCII format to make everything as easy as possible.

Application**Zone**

FreeForm

A 3D object editor that can be used to create objects for other 3D packages. It's very easy to use and includes a quick render option to allow you to view your objects. This program requires an FPU.



Texture Studio

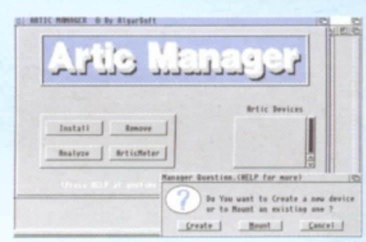
From the creators of ImageStudio, this texture editor is a boon for Imagine users, giving them the power to view and alter textures with ease.

Technical**Zone**

With this month's storage feature inside the magazine, we thought it was an ideal opportunity to include some related utilities and programs on the Coverdisks.

You'll find there are programs here to help you make the most out of your floppy drives, with AmiCDFileSystem to let you read Macintosh HD floppies and CDs. There's also a program to allow you to boot CDs from Workbench.

In addition to the programs, we have included a new datatype for Workbench 3 users. This allows you to use Tiff images in any program that supports datatypes.



Artic1.7

Invisibly expand your hard drive with this disk expander. It automatically packs and unpacks files to a pseudo device on your WB.

